US Model
Canadian Model
AEP Model
UK Model
E Model

'Dolby' and the double-D symbol are trademarks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

STEREO-CASSETTE DECK

SPECIFICATIONS

Recording system 4-track 2-channel stereo
Fast-forward and rewind time
Approx. 90 sec. (with C-60 cassette)
Bias frequency 105 kHz
Signal-to-noise ratio (NAB, at peak level)

Cassette \ Dolby NR switch	OFF	B-TYPE ON	C-TYPE ON
TYPE IV (Sony METALLIC)	60 dB	67 dB	73 dB
TYPE III (Sony FeCr)	61 dB	68 dB	74 dB
TYPE II (Sony CD-α)	57 dB	64 dB	70 dB
TYPE I (Sony BHF)	56 dB	63 dB	69 dB

Total harmonic distortion
0.8 % (with Sony METALLIC and FeCr cassettes)
Frequency response DOLBY NR OFF
- With TYPE IV cassette (Sony METALLIC)
  20 - 19,000 Hz
  25 - 17,000 Hz (±3 dB)
  25 - 13,000 Hz (±3 dB, 0 VU recording)
- With TYPE III cassette (Sony FeCr)
  20 - 19,000 Hz
  25 - 18,000 Hz (±3 dB)
- With TYPE II cassette (Sony EHF)
  20 - 18,000 Hz
  25 - 16,000 Hz (±3 dB)
- With TYPE I cassette (Sony HFX)
  20 - 18,000 Hz

Wow and flutter 0.04 % WRMS
Inputs Line inputs (phono jacks)
Sensitivity 77.5 mV (−20 dB)
Input impedance 50 k ohms

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES ÉCLATÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SONY

SERVICE MANUAL

MICROFILM

Outputs	Line outputs (phono jacks) Output level 0.435 V (−5 dB) at a load impedance of 50 k ohms Load impedance over 10 k ohms Headphone output Output level, variable from −20 dB to −50 dB at a load impedance of 8 ohms
General	
Power requirements	Type 1 : 220 V ac, 50/60 Hz (240 V ac adjustable by authorized Sony personnel) Type 2 : 240 V ac, 50/60 Hz (220 V ac adjustable by authorized Sony personnel) Type 3 : 110, 120, 220 or 240 V ac adjustable, 50/60 Hz
Power consumption	26 watts
Dimensions	Approx. 430 × 105 × 285 mm (w/h/d) (17 × $4\frac{1}{4}$ × $11\frac{1}{4}$ inches) including projecting parts and controls
Weight	Approx. 6.1 kg (13 lbs 8 oz)
Peak program meters	
Response range	−40 dB to +8 dB
Frequency response	20 - 20,000 Hz ±1.5 dB
Response time	1 millisecond
Decay time (from 0 dB to −20 dB)	750 milliseconds
Overshoot	none

0 dB = 0.775 V

FEATURES

Three-head system with S & F (Sendust and Ferrite) heads
Separate record and playback heads allow optimum gap settings and impedance ratings for distortion-free recording and greatly extended frequency response. Sendust and Ferrite heads take full advantage of metal tapes to provide a wider dynamic range than is possible with conventional tapes. For good tape-to-head contact the heads are mounted in one block and each head is separately adjusted for precise azimuth alignment. The three-head system also enables you to monitor the recorded tape while actually recording.

Closed-loop dual-capstan tape drive system
Two pairs of capstans and pinch rollers ensure uniform tape tension and stable tape-to-head contact. As a result, wow and flutter and modulation noise are greatly reduced.

Dolby C-type NR (noise reduction) system
In addition to the conventional B-type Dolby NR system, the TC-K555 employs the newly-developed C-type Dolby NR system which reduces tape noise twice as effectively as the B-type system. The C-type system also incorporates an anti-saturation network to improve the high-frequency dynamic range by 4 dB at 10 kHz.

Digital linear counter
This counter indicates the recording or playback time elapsed on the tape so that the tape can be precisely indexed. While conventional displays can only indicate the elapsed recording time, this display can indicate with a minus sign how much recording time remains.

Bright FL-display peak program meters
The peak program meters follow the transient peaks of the music and maintain the peak readings for about 4 seconds. This double indication makes it easy to set critical recording levels precisely.

Remote control operation
Using the optional RM-50 or RM-80 remote control unit, various operations—recording, playback, record muting operation, etc.—can be remotely controlled.
When the RM-65 synchro remote control unit is used to connect this cassette deck with a turntable equipped with a synchro remote control jack or a TC-PB5 stereo cassette player, the operation of the cassette deck and the turntable or TC-PB5 will be synchronized.

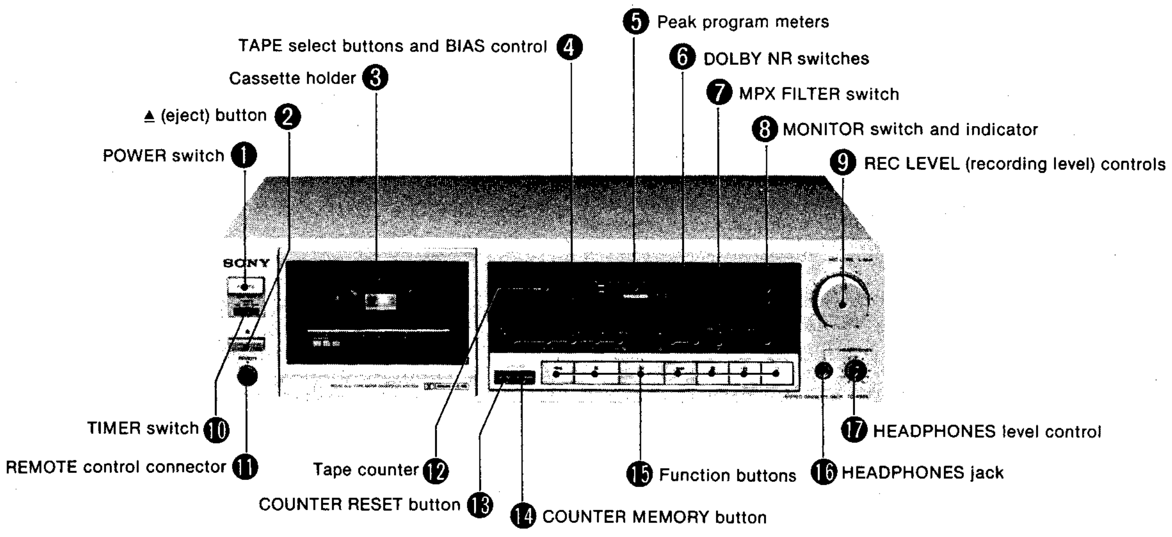
Two motors
The two-motor drive system assures accurate and stable tape transport. The capstan is driven by a linear torque BSL (brushless and slotless) motor to keep wow and flutter low and provide smooth torque.

Useful functions
- ●Record muting function allows you to easily insert a moderately long blank space between selections.
- ●Auto play permits one step rewind and playback from the beginning of the tape and the memory function allows you to easily locate any desired point on the tape.
- ●A timer switch is provided to turn the deck on and off any number of times at preset times set on an optional timer.

SECTION 1
OUTLINE

1-1. FUNCTION OUTLINE OF CONTROLS

The numbers in the photo are keyed to the following explanations.



❶ POWER switch
Depress this switch to turn on the power. The lamp in the cassette holder, the display of the peak program meter and the tape counter will light up. The indicator lamp of the pause button will blink for about 4 seconds, indicating that the function button are inoperative during this period.
Press this switch again to turn the power off.

❷ ▲ (eject) button
Press this button to open the cassette holder.

❸ Cassette holder

❹ TAPE select buttons and BIAS control
Depress one of the TAPE select buttons according to the type of tape to be used. When the appropriate button is depressed, the optimum equalization and bias current settings are obtained for recording, and the optimum equalization setting is obtained for playback. When recording using a TYPE I (NORM) tape, select the appropriate positions of the BIAS control. See "Recommended settings for the TAPE select buttons and the BIAS control" on page 6.

❺ Peak program meter
With the MONITOR switch set to SOURCE, the meters show the peak input level of each channel, and to TAPE, the meters show recorded levels. They follow the transient peaks of high-level inputs that are too brief to be followed by conventional VU meters so that the optimum recording level can be accurately set. The highest input of each channel is held about 4 seconds on the scale, except when a higher peak occurs before 4 seconds have passed, in which case that peak is immediately indicated.

❻ DOLBY NR switches
The left switch turns the Dolby NR* (Noise Reduction) system on and off and the right switch selects either the B-type or C-type Dolby NR system.
To record with the Dolby NR process, depress the ON/OFF switch to the ON position and choose between B-TYPE (⊓) and C-TYPE (▭).
To record without the Dolby NR process, press the ON/OFF switch again release.
When playing back, set these switches to the same position used in recording.

*"Dolby" and the double-D symbol are trade marks of the Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

❼ MPX FILTER switch
Normally set this switch to OFF.
When recording FM stereo broadcasts with the Dolby NR system, set it to ON if the 19 kHz pilot signal and the 38 kHz subcarrier have not been adequately suppressed by the FM tuner or receiver.
If the tuner or the receiver suppresses such signals adequately (most high-quality tuners and receivers will), you do not have to set this switch to ON.

❽ MONITOR switch and indicator
When adjusting the recording level, set this switch to the released position (SOURCE ⊓) to allow monitoring of the sound to be recorded. During playback, depress this switch (TAPE ▭) to allow monitoring of the recorded sound. According to the MONITOR switch setting, "SOURCE" or "TAPE" will appear in the indicator window.
During recording, use this switch to monitor either the source or the recorded sound.

❾ REC LEVEL (recording level) controls
These controls adjust the recording level. The knob nearest the panel is for the left channel and the other knob for the right channel. To adjust the level of the left or right channel only, turn the appropriate knob while holding the other knob.

❿ TIMER switch
You can set the unit to record or play back at a predetermined time by connecting any commercially available timer. To record, set this timer switch to REC. To playback, set it to PLAY. See "Timer-activated recording and playback" on page 11.

⓫ REMOTE control connector
Connect the optional RM-50 (wired) or RM-80 (wireless) remote control unit to operate the tape transport functions from a distance. Synchronized operation is also possible with selected Sony turntables, using the optional RM-65 synchro remote control unit. Read the instruction manual of your remote control unit before operating it.

⓬ Tape counter
This counter indicates the tape running time.
See "Using the digital linear counter" on page 8.

⓭ COUNTER RESET button
Press this button to reset the tape counter to "0.00".

⓮ COUNTER MEMORY Button
Press to rewind the tape to the "0.00" point on the tape counter. The word "MEMORY" is displayed below the tape counter. Pressing the ▶ button together with the ◀◀ button automatically starts playback from "0.00."
When you do not use the memory function, press this button again. The word "MEMORY" will disappear.

⓯ Function buttons
It is possible to switch directly from one mode to another. The indicator lamps light when the tape deck is in the forward, record or pause mode.

◀◀ (rewind) button : Press this button to rewind the tape. The rewind button is also used, with the forward button, to initiate auto play. See "Auto play" on page 10.
■ (stop) button : To stop the tape, press this button. The tape will stop automatically when it is completely wound up in either direction.
▶ (forward) button : Press this button to play the tape back. To record, press this button while holding the ● button down.
▶▶ (fast-forward) button : Press this button to advance the tape rapidly.
● (record) button : Press this button together with the ▶ button to start recording.
❚❚ (pause) button : To pause for a moment during recording or playback, press this button. This button is also used to control more precisely the start of recording and to release the record muting mode.
○ (record muting) button : Press this button to eliminate unwanted material and to insert a blank space during recording.

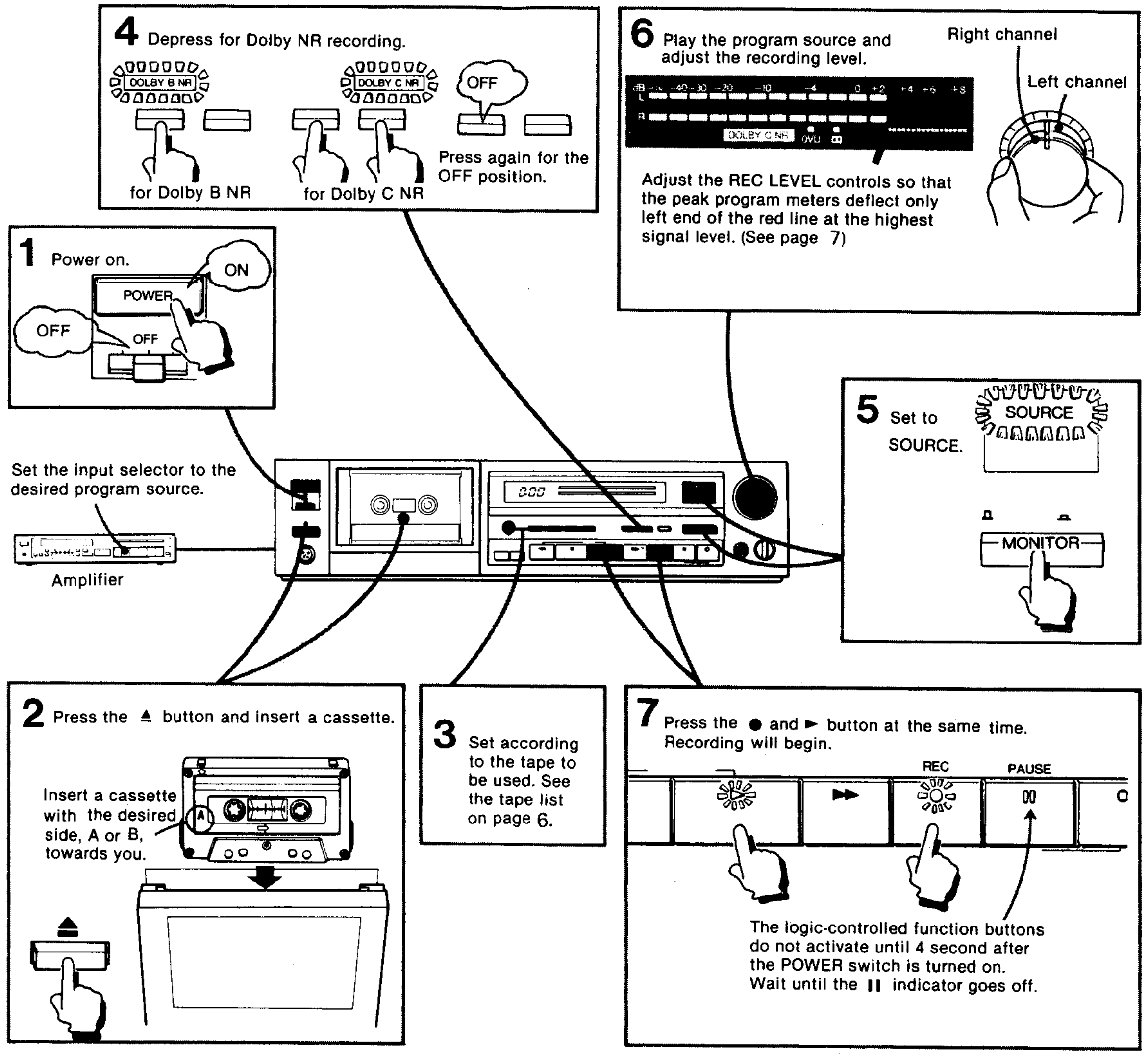
⓰ HEADPHONES jack
Headphones may be inserted either to monitor the input signals to be recorded or to listen to a recording in the playback mode. Headphone volume is adjustable with the HEADPHONES control.

⓱ HEADPHONES level control
This control adjusts the headphone level. This setting does not affect the peak program meters or the output level of the LINE OUT jacks at the rear.

RECORDING

TO RECORD

The numbers in this diagram indicate the sequence to be followed.



4 Depress for Dolby NR recording.

for Dolby B NR

for Dolby C NR

Press again for the OFF position.

6 Play the program source and adjust the recording level.

Adjust the REC LEVEL controls so that the peak program meters deflect only left end of the red line at the highest signal level. (See page 7)

1 Power on.

Set the input selector to the desired program source.

5 Set to SOURCE.

2 Press the ⏏ button and insert a cassette.

Insert a cassette with the desired side, A or B, towards you.

3 Set according to the tape to be used. See the tape list on page 6.

7 Press the ● and ► button at the same time. Recording will begin.

The logic-controlled function buttons do not activate until 4 second after the POWER switch is turned on. Wait until the ❚❚ indicator goes off.

RECOMMENDED SETTINGS FOR THE TAPE SELECT BUTTONS AND BIAS CONTROL

Press the appropriate TAPE select button referring to the recommended settings listed below. When recording using a TYPE I (normal) tape, adjust the BIAS control also.

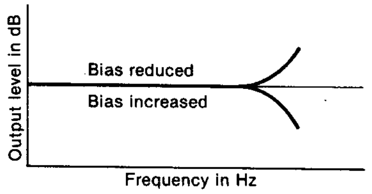
While the settings are optimum for Sony cassettes, you may want to change them when using cassettes produced by other manufactures.

TAPE	Tapes (C-60 and C-90)	
BIAS TYPE I NORMAL	AMPEX: 371 PLUS FUJI: FL TDK: D	BASF: PERFORMANCE SCOTCH: DYNARANGE
BIAS TYPE I NORMAL	**SONY: SHF, HFX** BASF: PROFESSIONAL I MAXELL: LN, UD, UD-XL I SCOTCH: MASTER I MEMOREX: MRX₂	AMPEX: GRAND MASTER I FUJI: FX-I TDK: AD
TYPE II CrO₂	**SONY: EHF** MAXELL: UD-XLII SCOTCH: MASTER II MEMOREX: CrO₂	FUJI: FX-II TDK: SA AMPEX: GRAND MASTER II
TYPE III Fe-Cr	**SONY: FeCr** BASF: PROFESSIONAL III SCOTCH: MASTER III	PHILIPS: FERRO CHROMIUM
TYPE IV METAL	**SONY: METALLIC**	Other metal tapes

The three-head system permits you to monitor the recorded sound while in the record mode, so that you can easily check the effects of various settings of the TAPE select buttons and the BIAS control.

BIAS control

This control regulates bias current for TYPE I (NORM) cassettes. The full counterclockwise position decreases bias by about 20% from the center position and the full clockwise position increases it by about 20%. Generally, as bias is increased, extreme high frequencies will be suppressed. As bias is reduced, extreme high frequencies will be boosted. You can then find the appropriate bias setting for each brand of TYPE I cassettes.

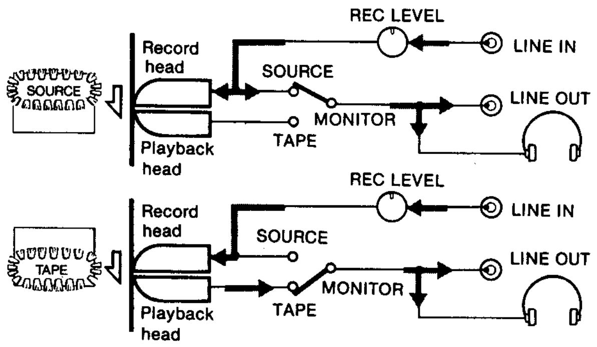


RECORD MONITORING

As this tape deck has separate record and playback heads, you can easily compare the source and the recorded sounds in the recording mode by using the MONITOR switch. You can check the recording level and whether there is any contamination on the heads that is affecting the recording.

●If the connected amplifier has a tape monitor selector, source/tape comparison is possible with the amplifier monitor selector. In this case, set the tape deck MONITOR switch to TAPE.

MONITOR switch setting and signal flow



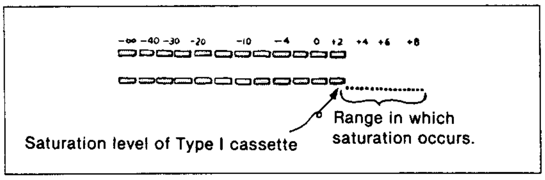
TO RECORD MATERIAL ONTO A SPECIFIC PORTION OF TAPE

When you want to re-record a specific portion of tape or to insert new material between two points on a tape you will find it handy to be able to change directly from the playback to the record mode by pressing the ● button while holding the ► button down.

TO ADJUST THE RECORDING LEVEL

Adjust the recording level while monitoring on the peak program meters the input level of the program source to be recorded. If the recording level setting is too high, the recording will be distorted, and if the setting is too low, the recording will be noisy. The recording level should be set as high as possible while still avoiding distortion. This level will depend on the type of tape being used.
When the TAPE button is pressed, the range above the saturation level of the selected type of tape is indicated by the red line. Generally speaking, adjust the recording level by making sure that the meters deflect only to the left end of the red line at the highest signal level.

Example: Type I cassette


−∞ −40 −30 −20 −10 −4 0 +2 +4 +6 +8
Range in which saturation occurs.
Saturation level of Type I cassette

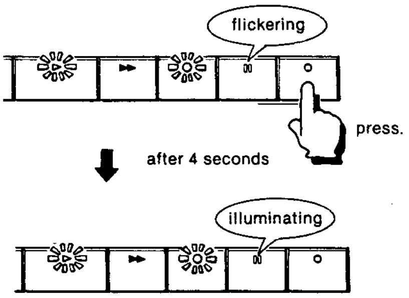
Since the saturation level of any tape is lower in the higher frequencies than in the lower frequencies, the recording level may still be too high if adjusted in this way if the program to be recorded contains many high frequency signals. Consideration has to be given to the program source to be recorded as well as to the characteristics of the cassette to be used, since each cassette, even cassettes using the same type of tape, may have different characteristics. The following table will provide you with a starting point in setting the recording level of various kinds of programs when using Sony cassettes.

Type of tape	Sony cassettes	Low and mid freq. range programs (vocal, etc.)	Mid and high freq. range programs (piano, guitar, etc.)
I	HFX	+ 3 dB	+ 1 dB
	SHF	+ 4 dB	+ 2 dB
II	EHF	+ 2 dB	+ 2 dB
III	FeCr	+ 5 dB	+ 1 dB
IV	METALLIC	+ 6 dB	+ 6 dB

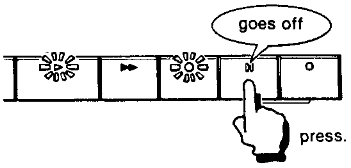
RECORD MUTING

By pressing the ○ button during recording, four seconds interspacing is provided automatically, eliminating unwanted program material such as broadcasting commercials. While the record muting is operating, the incoming signal is not recorded on the tape but it continues to register on the meters and feed to the monitor so that you know exactly what is going on.

1 Press the ○ button when the segment you do not want to record begins. The indicator of the II button will blink, and the tape path will pause automatically after four seconds.



2 When you want to resume recording, press the II button.

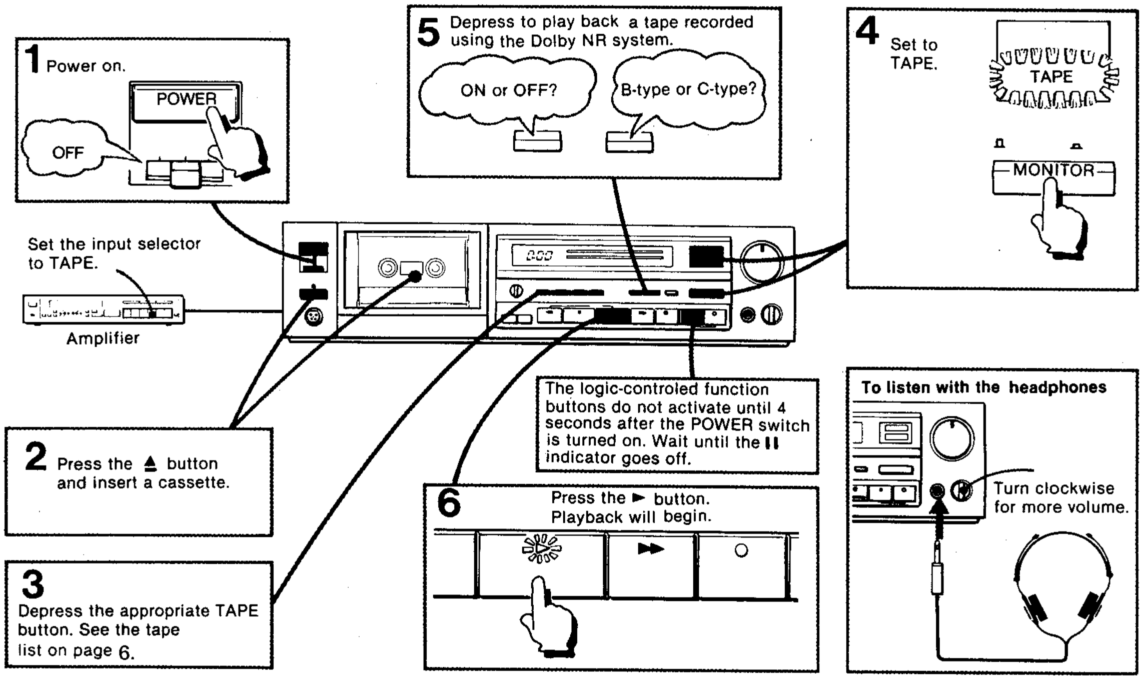


To insert a blank less than four seconds long
Press the ○ button to mute recording. Press the II button when you want to resume recording.

To insert a blank over four seconds long
Hold down the ○ button for as long as you want the blank segment on the tape to be. After four seconds, the indicator of the II button will blink more rapidly. When you release the ○ button, the tape deck will be in the pause mode. When you want to resume recording, press the II button to release the pause mode.

PLAYBACK

The numbers in this diagram indicate the sequence to be followed.



1 Power on.

Set the input selector to TAPE.

2 Press the ▲ button and insert a cassette.

3 Depress the appropriate TAPE button. See the tape list on page 6.

4 Set to TAPE.

5 Depress to play back a tape recorded using the Dolby NR system.

The logic-controled function buttons do not activate until 4 seconds after the POWER switch is turned on. Wait until the ❚❚ indicator goes off.

6 Press the ► button. Playback will begin.

To listen with the headphones

Turn clockwise for more volume.

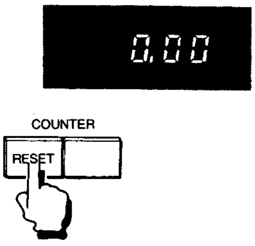
POWER
OFF
Amplifier
ON or OFF?
B-type or C-type?
TAPE
MONITOR
►►
○

USING THE DIGITAL LINEAR COUNTER

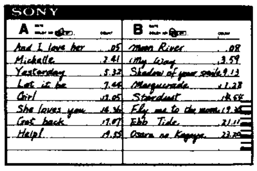
The first two digits of this tape counter show the approximate recording or playback time in minutes, and the last two digits show the seconds.

minutes
seconds
35.30

TO INDEX THE WHOLE TAPE



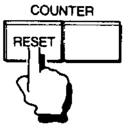
0.00
COUNTER
RESET



Before recording or playback, set the counter to "0.00" by pressing the COUNTER RESET button.
As the tape runs, the figures of the counter change. Note the numbers and the program being recorded or played back. Any point of the tape can thus be readily located later by reference to these numbers.

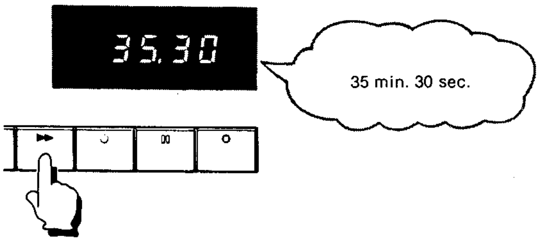
TO CHECK THE AVAILABLE RECORDING TIME ON ONE SIDE OF A CASSETTE

1 At the beginning of the tape, set the counter to "0.00".



COUNTER
RESET

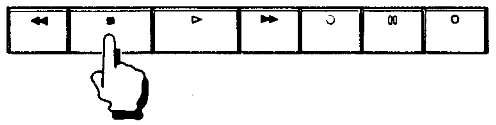
2 Fast-forward the tape to the end.
The digits will shown the approximate available recording time.



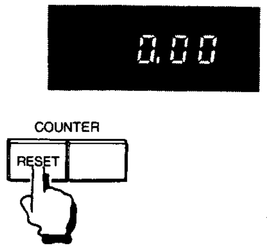
35.30
35 min. 30 sec.
►►

TO DETERMINE THE REMAINING RECORDING TIME

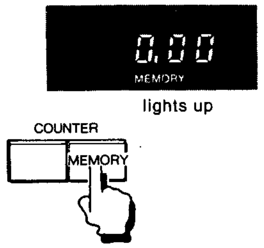
1 Stop the tape at the point at which you wish to begin recording.



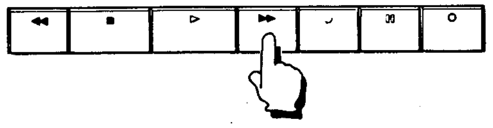
2 Set the counter to "0.00".



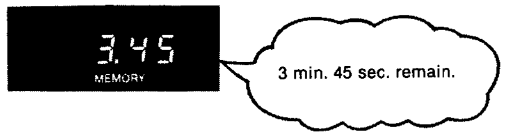
3 Activate the memory counter.



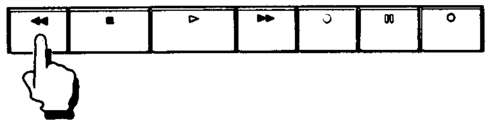
4 Fast-forward the tape to the end.



The digits will show the approximate remaining recording time.



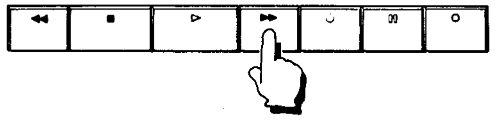
5 Rewind the tape. The tape will stop at "0.00".



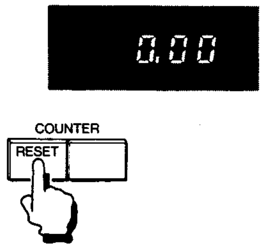
TO MONITOR THE REMAINING RECORDING TIME WHILE RECORDING—Using the minus display

This counter shows the recording or playback time from the "0.00" point preceded by a minus sign when the tape is rewound beyond "0.00".

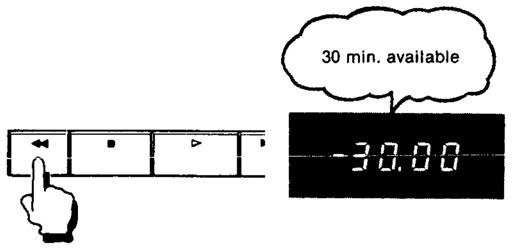
1 Fast-forward the tape to the end.



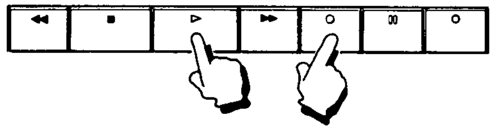
2 Set the counter to "0.00".



3 Rewind the tape to the beginning. The digits will show the approximate recording time on one side of the cassette.



4 Start the recording.

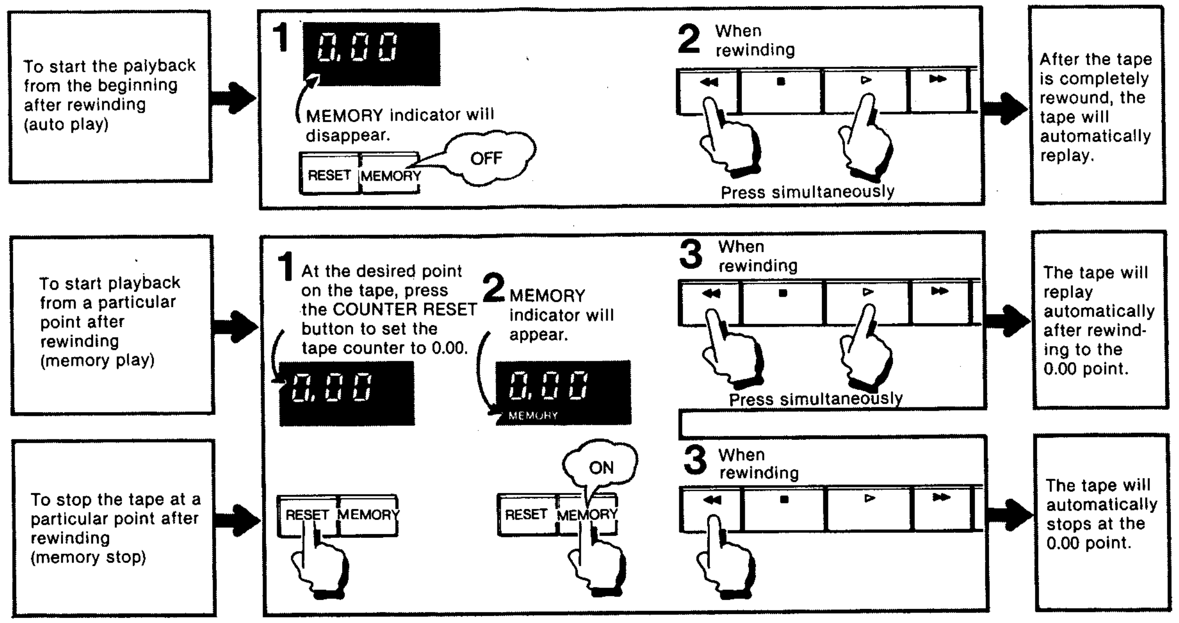


The digits will change from −30.00 to −29.59, −29.58 ... as the recording goes on, and you can monitor the remaining recording time at any point on the tape.

Note
Do not turn off the power while measuring the time because the numbers will return to "0.00" when the power is turned on again.

The accuracy of the counter
This counter is not actually a digital clock, so that the displayed figures are not exactly equal to the actual elapsed time. The accuracy will vary depending on the type of tape being used.
This counter has been designed using C-60 cassettes as the standard. Make sure that the displayed time is greater than the time required, when using a C-46 cassette.

AUTO PLAY AND MEMORY PLAY/STOP



To start the palyback from the beginning after rewinding (auto play)

1 MEMORY indicator will disappear.

2 When rewinding — Press simultaneously

After the tape is completely rewound, the tape will automatically replay.

To start playback from a particular point after rewinding (memory play)

1 At the desired point on the tape, press the COUNTER RESET button to set the tape counter to 0.00.

2 MEMORY indicator will appear.

3 When rewinding — Press simultaneously

The tape will replay automatically after rewinding to the 0.00 point.

To stop the tape at a particular point after rewinding (memory stop)

3 When rewinding

The tape will automatically stops at the 0.00 point.

Why does the tape stop around −0.02?
In order to avoid any chance of cutting off the starting point.

How can the tape be rewound futher than 0.00?
Press the ◄◄ button again.

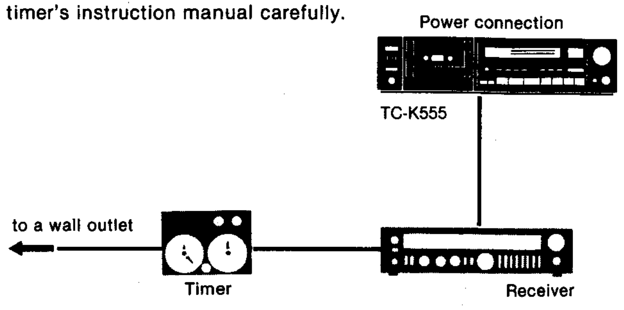
ERASING

When the tape deck functions in recording mode, the erase head automatically erases any previously recorded material.
To erase without recording:

1. Make sure that the safety tab of the cassette is in place, or that the tab slot is covered with plastic tape.
2. Set the REC LEVEL controls fully to "0". (Disconnecting all inputs will result in a more complete erasure.)
3. Press the appropriate TAPE select button according to the type of tape to be erased. (The TYPE IV button assures good erasing for any type of tape.)
4. While holding the ● button down, press the ► button.

TIMER-ACTIVATED RECORDING AND PLAYBACK

By connecting any commercially available timer to the tape deck, the deck can be set to play back or record automatically at any desired time. As timers work in different ways, be sure to read the timer's instruction manual carefully.



To record a broadcast using a timer

1. Connect the tape deck, receiver and timer. Set the timer so that power is supplied to the connected equipment.
2. Turn on the receiver and tune in the station which will broadcast the program you want to record.
3. Set the tape deck's TIMER switch to OFF.
4. Insert a cassette. Make sure that the tab is intact or that plastic tape covers the tab slot.
5. Turn on the tape deck and adjust the recording level.
6. Set the timer for the desired time. (At this point power to the connected equipment will be cut off.)
7. Set the tape deck's timer switch to REC.
   The tape deck is now ready to start recording at the time set on the timer.

To play back using a timer

The connections between equipment are the same as for recording using a timer.

1. Set the tape deck's TIMER switch to OFF.
2. Turn on the receiver and set the appropriate switches for playback.
3. Turn on the tape deck and insert the recorded cassette.
4. Set the timer for the desired time. (At this point power to the connected equipment will be cut off.)
5. Set the tape deck's timer switch to PLAY. The tape deck is now ready to start playback at the time set on the timer.

Note

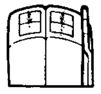
The tape deck's timer switch will function properly only if the tape deck is turned on **after** the switch is set to REC or PLAY. Do not change the setting of the timer switch during the four second stand-by period immediately after the power is turned on. If you want to change the setting of the switch, turn the power off first.

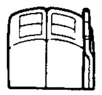
MAINTENANCE

Cleaning of heads and tape path

The performance of your unit is dependent on the periodic cleaning of the heads and all surfaces over which the tape travels.
Dirty heads and a dirty tape path cause:

- Loss of high frequency response
- Loss of sound volume
- Sound drop-outs



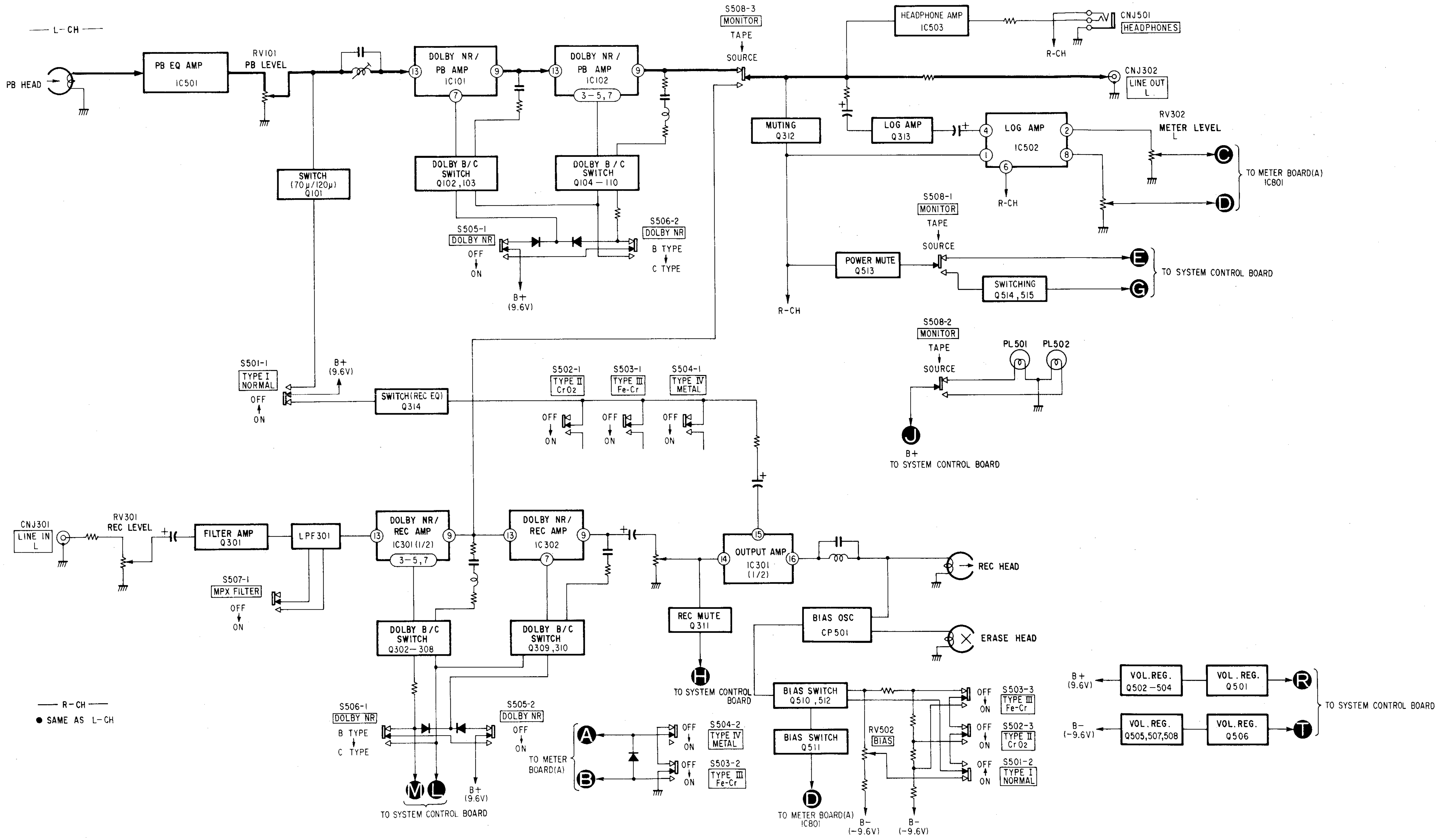


The heads and tape path should be cleaned after 10 hours of operation.

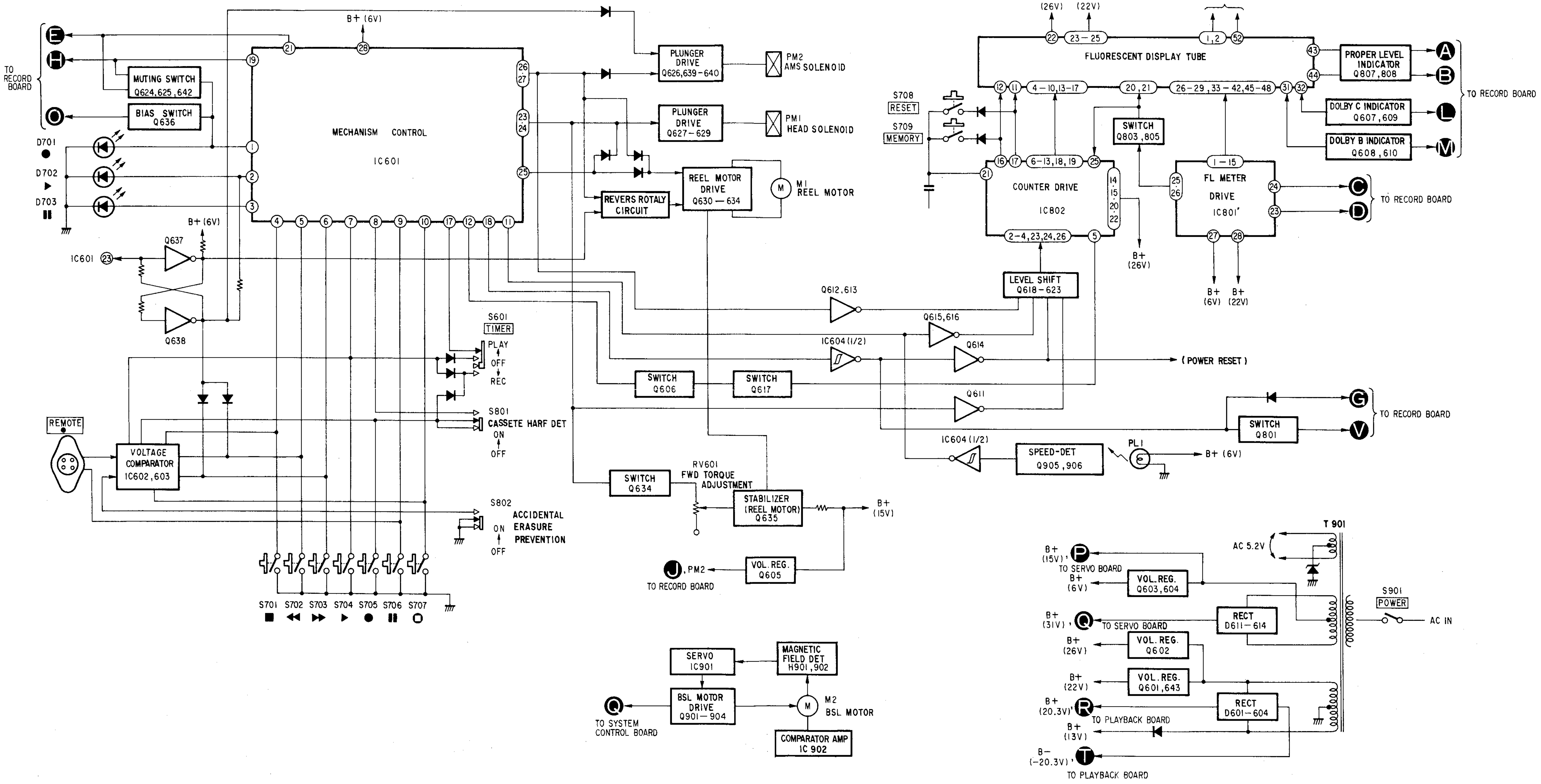
MEMO

1-2. BLOCK DIAGRAMS

— Amp Section —


— L-CH —
PB HEAD
PB EQ AMP
IC501
RV101
PB LEVEL
DOLBY NR/
PB AMP
IC101
DOLBY NR/
PB AMP
IC102
3-5,7
SWITCH
(70μ/120μ)
Q101
DOLBY B/C
SWITCH
Q102,103
DOLBY B/C
SWITCH
Q104-110
S505-1
DOLBY NR
OFF
ON
B+
(9.6V)
S506-2
DOLBY NR
B TYPE
C TYPE
S508-3
MONITOR
TAPE
SOURCE
HEADPHONE AMP
IC503
CNJ501
HEADPHONES
R-CH
CNJ302
LINE OUT
L
MUTING
Q312
LOG AMP
Q313
LOG AMP
IC502
R-CH
RV302
METER LEVEL
L
TO METER BOARD(A)
IC801
S508-1
MONITOR
TAPE
SOURCE
POWER MUTE
Q513
SWITCHING
Q514,515
TO SYSTEM CONTROL BOARD
R-CH
S508-2
MONITOR
TAPE
SOURCE
PL501
PL502
B+
TO SYSTEM CONTROL BOARD
S501-1
TYPE I
NORMAL
OFF
ON
B+
(9.6V)
SWITCH(REC EQ)
Q314
S502-1
TYPE II
CrO2
S503-1
TYPE III
Fe-Cr
S504-1
TYPE IV
METAL
OFF
ON
CNJ301
LINE IN
L
RV301
REC LEVEL
FILTER AMP
Q301
LPF301
S507-1
MPX FILTER
OFF
ON
DOLBY NR/
REC AMP
IC301 (1/2)
3-5,7
DOLBY NR/
REC AMP
IC302
OUTPUT AMP
IC301
(1/2)
REC HEAD
DOLBY B/C
SWITCH
Q302-308
DOLBY B/C
SWITCH
Q309,310
REC MUTE
Q311
TO SYSTEM CONTROL
BOARD
BIAS OSC
CP501
ERASE HEAD
S506-1
DOLBY NR
B TYPE
C TYPE
S505-2
DOLBY NR
OFF
ON
B+
(9.6V)
TO SYSTEM CONTROL BOARD
TO METER
BOARD(A)
S504-2
TYPE IV
METAL
S503-2
TYPE III
Fe-Cr
BIAS SWITCH
Q510,512
BIAS SWITCH
Q511
TO METER BOARD(A)
IC801
RV502
BIAS
B-
(-9.6V)
B-
(-9.6V)
S503-3
TYPE III
Fe-Cr
S502-3
TYPE II
CrO2
S501-2
TYPE I
NORMAL
B+
(9.6V)
VOL.REG.
Q502-504
VOL.REG.
Q501
B-
(-9.6V)
VOL.REG.
Q505,507,508
VOL.REG.
Q506
TO SYSTEM CONTROL BOARD
A
B
C
D
E
G
H
J
L
M
R
T
— R-CH —
● SAME AS L-CH

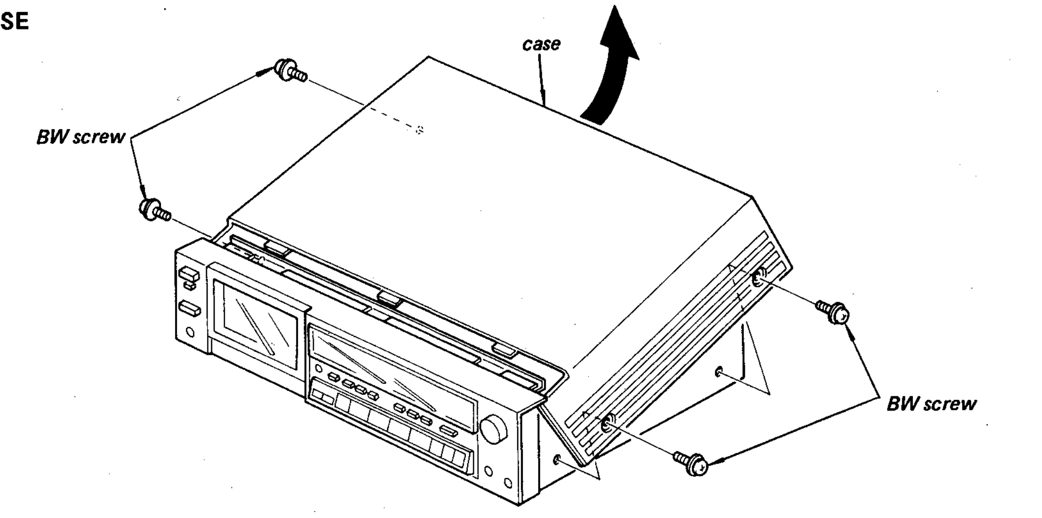
– System Control Section –


TO RECORD BOARD
MUTING SWITCH
Q624,625,642
BIAS SWITCH
Q636
D701
D702
D703
B+ (6V)
MECHANISM CONTROL
IC601
PLUNGER DRIVE
Q626,639-640
PM2
AMS SOLENOID
PLUNGER DRIVE
Q627-629
PM1
HEAD SOLENOID
REVERS ROTALY CIRCUIT
REEL MOTOR DRIVE
Q630 — 634
M1
REEL MOTOR
IC601
Q637
Q638
S601
TIMER
PLAY
OFF
REC
S801
CASSETE HARF DET
ON
OFF
REMOTE
VOLTAGE COMPARATOR
IC602,603
S802
ACCIDENTAL ERASURE PREVENTION
ON
OFF
S701
S702
S703
S704
S705
S706
S707
SWITCH
Q606
SWITCH
Q617
SWITCH
Q634
RV601
FWD TORQUE ADJUSTMENT
STABILIZER (REEL MOTOR)
Q635
B+ (15V)
VOL. REG.
Q605
PM2
TO RECORD BOARD
Q612,613
Q615,616
IC604 (1/2)
Q614
Q611
(POWER RESET)
IC604 (1/2)
SPEED-DET
Q905,906
PL1
B+ (6V)
SWITCH
Q801
TO RECORD BOARD
B+ (26V)
B+ (22V)
AC 5.2V
FLUORESCENT DISPLAY TUBE
PROPER LEVEL INDICATOR
Q807,808
TO RECORD BOARD
DOLBY C INDICATOR
Q607,609
DOLBY B INDICATOR
Q608,610
S708
RESET
S709
MEMORY
SWITCH
Q803,805
COUNTER DRIVE
IC802
FL METER DRIVE
IC801
TO RECORD BOARD
B+ (26V)
B+ (6V)
B+ (22V)
LEVEL SHIFT
Q618-623
T901
AC 5.2V
S901
POWER
AC IN
B+ (15V)
TO SERVO BOARD
B+ (6V)
VOL. REG.
Q603,604
B+ (31V)
TO SERVO BOARD
RECT
D611-614
B+ (26V)
VOL. REG.
Q602
B+ (22V)
VOL. REG.
Q601,643
B+ (20.3V)
TO PLAYBACK BOARD
RECT
D601-604
B+ (13V)
B- (-20.3V)
TO PLAYBACK BOARD
SERVO
IC901
MAGNETIC FIELD DET
H901,902
BSL MOTOR DRIVE
Q901-904
M2
BSL MOTOR
COMPARATOR AMP
IC 902
TO SYSTEM CONTROL BOARD

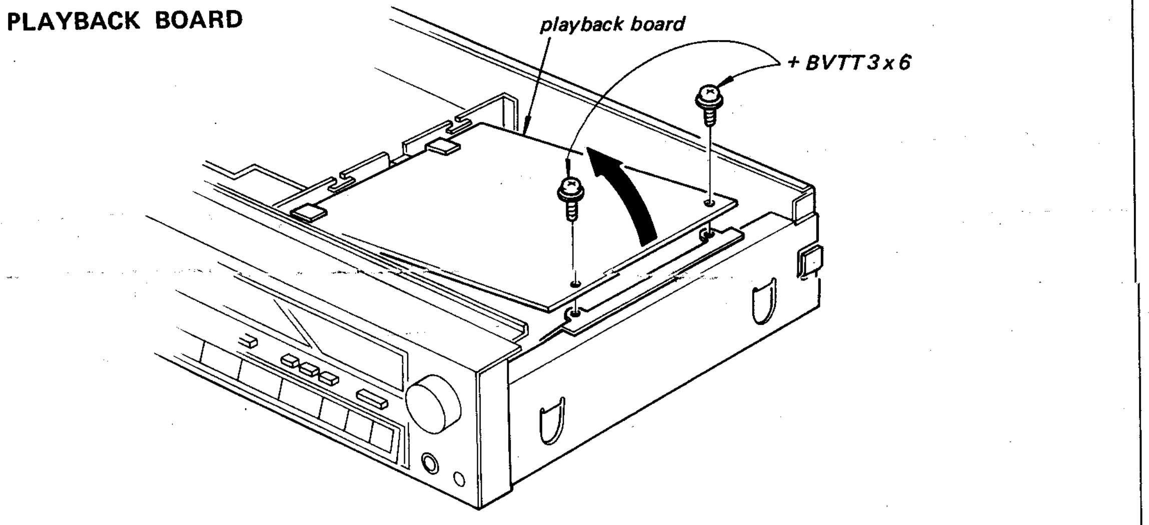
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

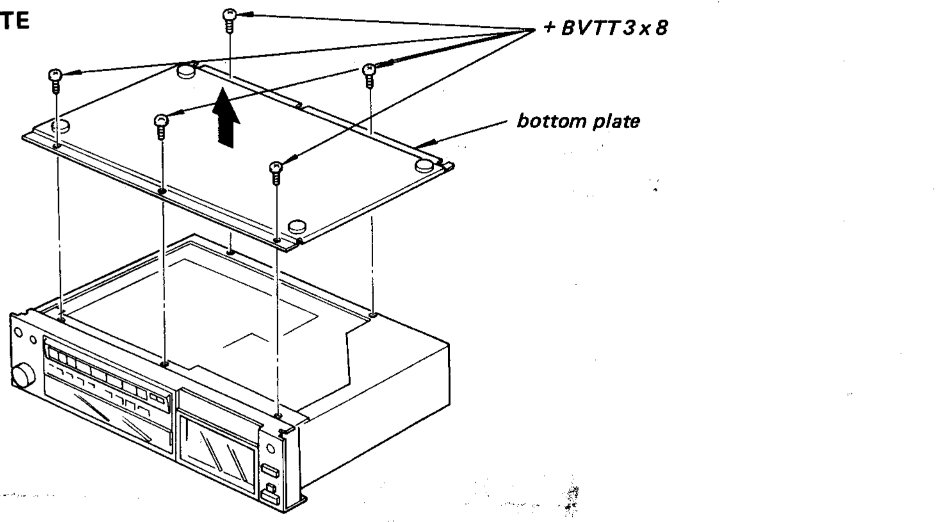
CASE


case
BW screw
BW screw

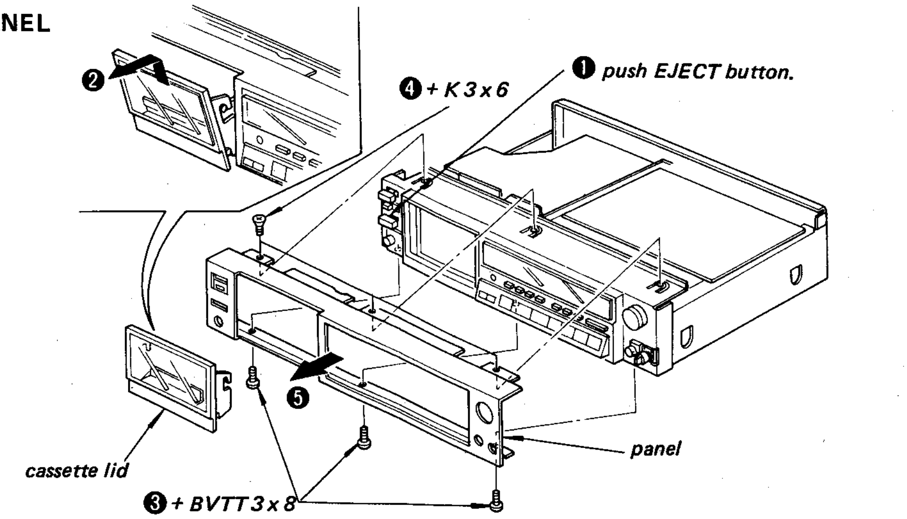
PLAYBACK BOARD


playback board
+ BVTT 3 x 6

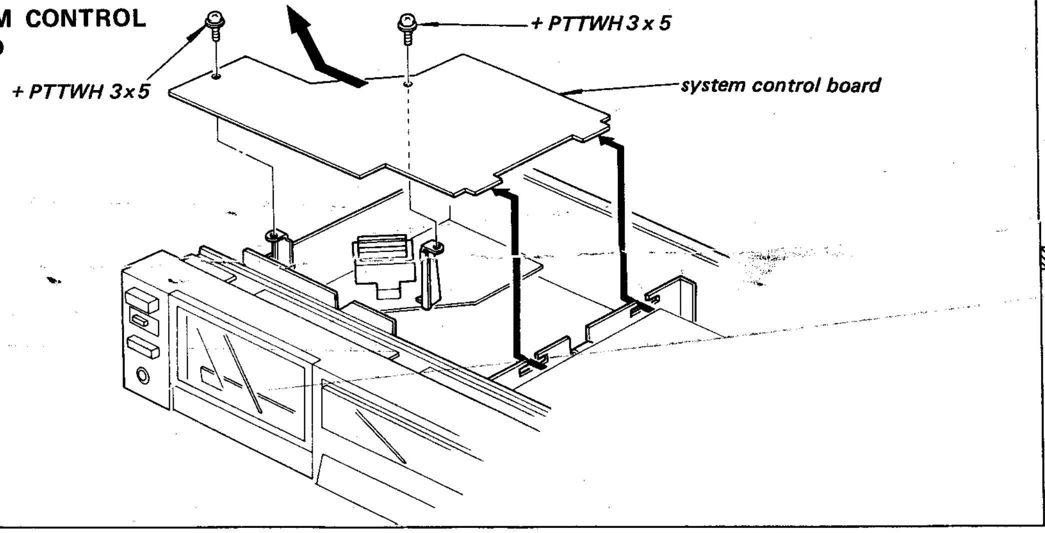
BOTTOM PLATE


+ BVTT 3 x 8
bottom plate

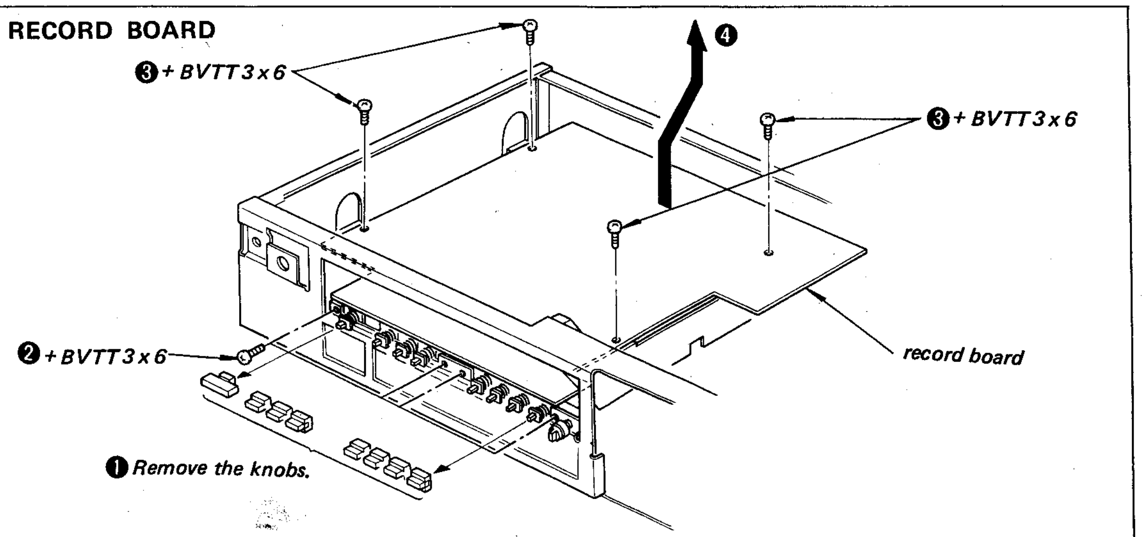
CASSETTE LID/PANEL


❷
❹ + K 3 x 6
❶ push EJECT button.
❺
panel
cassette lid
❸ + BVTT 3 x 8

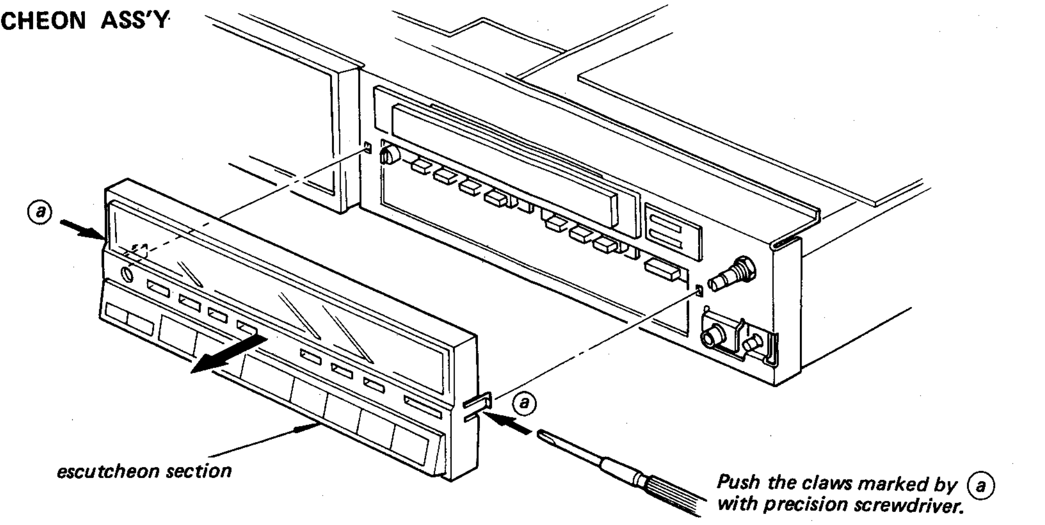
SYSTEM CONTROL BOARD


+ PTTWH 3 x 5
+ PTTWH 3x5
system control board

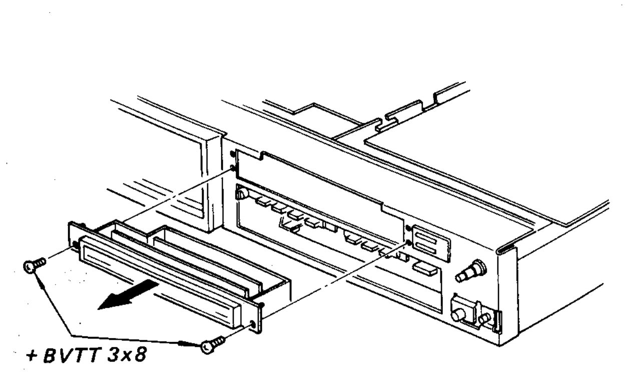
RECORD BOARD


❸ + BVTT 3 x 6
❹
❸ + BVTT 3 x 6
❷ + BVTT 3 x 6
record board
❶ Remove the knobs.

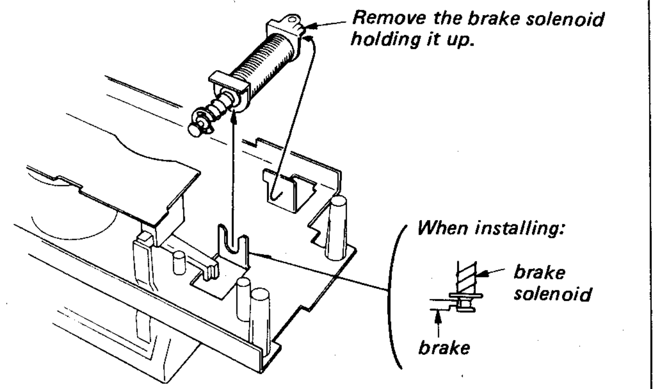
ESCUTCHEON ASS'Y


ⓐ
ⓐ
escutcheon section
Push the claws marked by ⓐ with precision screwdriver.

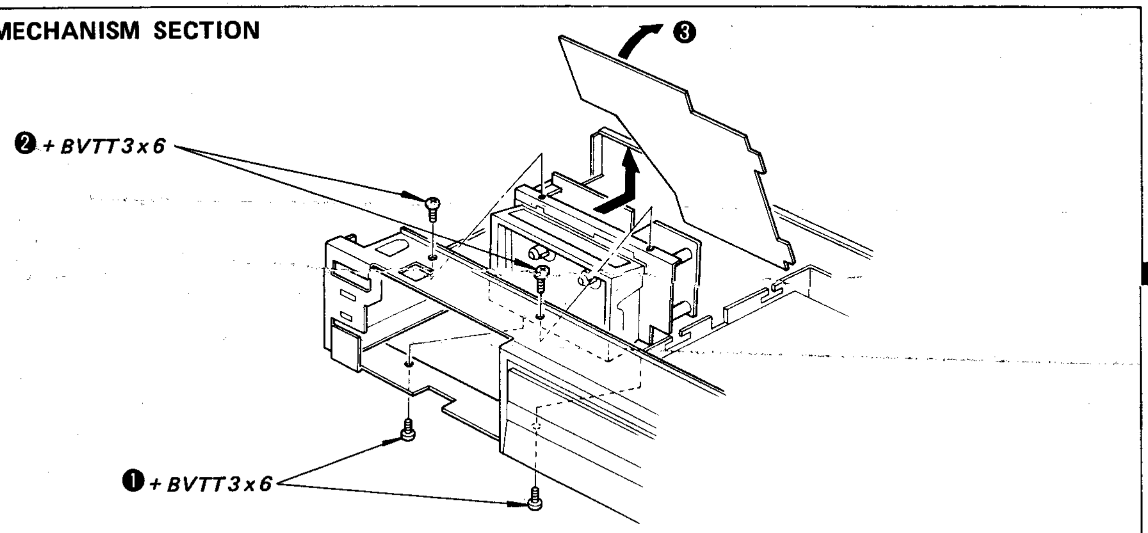
METER



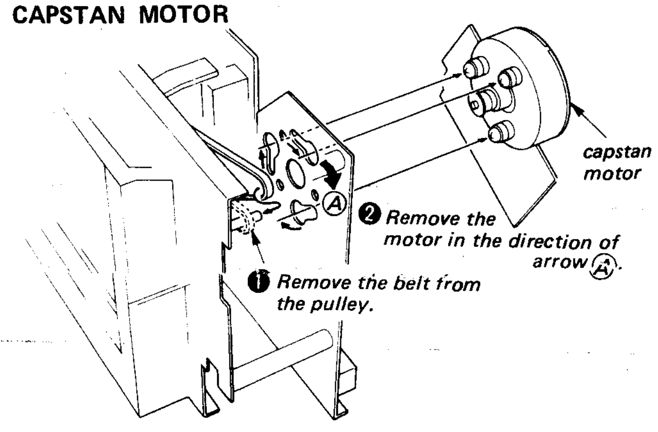
AMS SOLENOID


Remove the brake solenoid holding it up.
When installing:
brake solenoid
brake

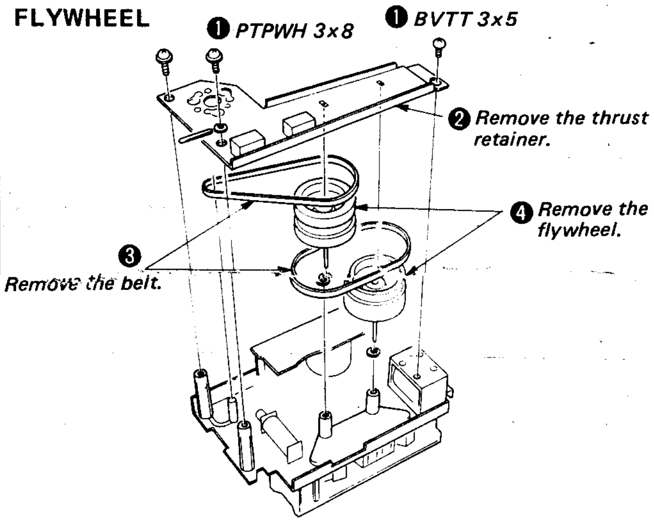
MECHANISM SECTION


❸
❷ +BVTT3x6
❶ +BVTT3x6

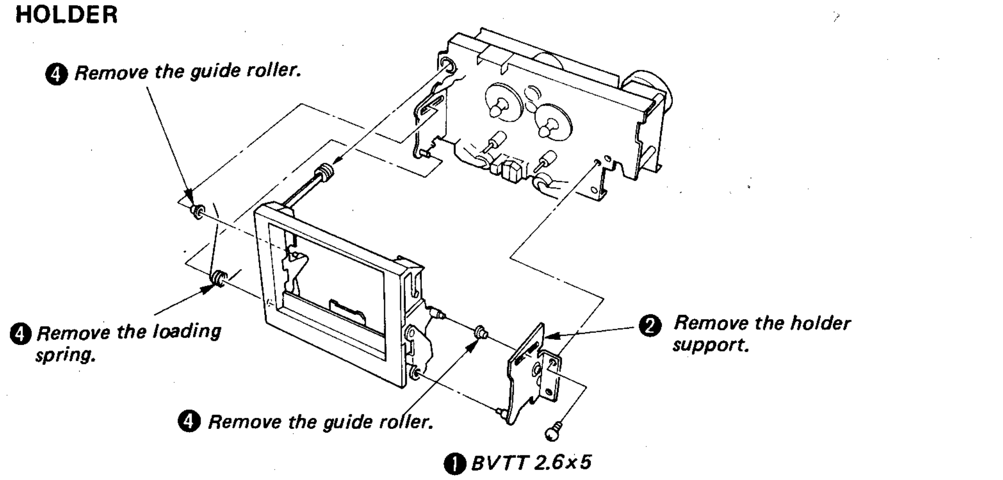
CAPSTAN MOTOR


capstan motor
❷ Remove the motor in the direction of arrow Ⓐ.
Ⓐ
❶ Remove the belt from the pulley.

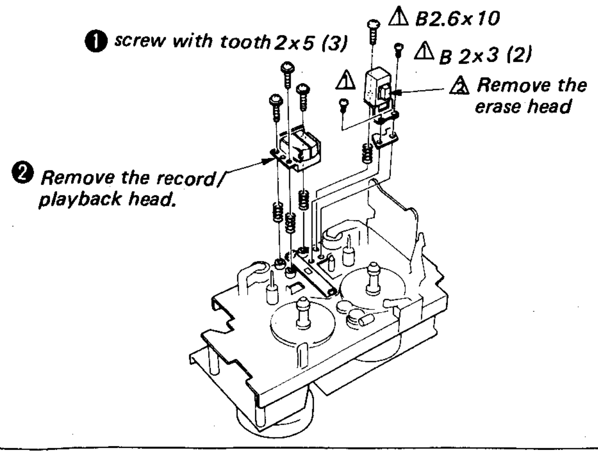
FLYWHEEL


❶ PTPWH 3x8
❶ BVTT 3x5
❷ Remove the thrust retainer.
❹ Remove the flywheel.
❸
Remove the belt.

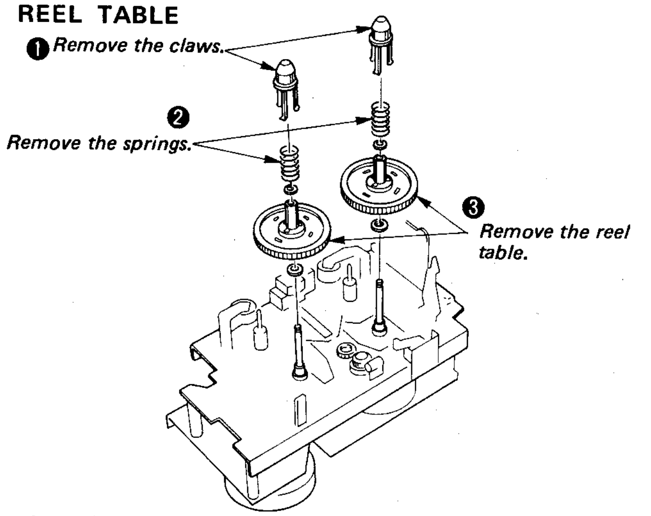
CASSETTE HOLDER


❹ Remove the guide roller.
❹ Remove the loading spring.
❹ Remove the guide roller.
❷ Remove the holder support.
❶ BVTT 2.6x5

RECORD/PLAYBACK HEAD.......... ❶ ~ ❷
ERASE HEAD.................................. ⚠1 ~ ⚠2


⚠1 B2.6x10
❶ screw with tooth 2x5 (3)
⚠1 B 2x3 (2)
⚠1
⚠2 Remove the erase head
❷ Remove the record/playback head.

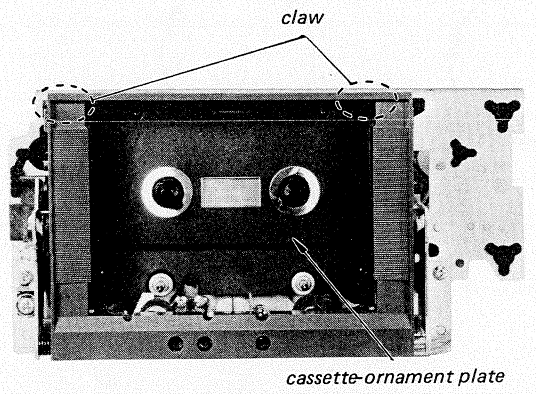
REEL TABLE


❶ Remove the claws.
❷
Remove the springs.
❸
Remove the reel table.

CASSETTE-ORNAMENT PLATE

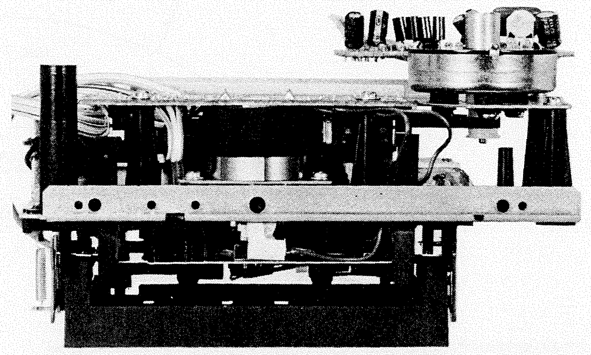
Note: This plate does not need screws to be installed.

1. Press the ejection button and open the cassette lid.
2. Release the two claws from the cassette-ornament plate at both the top corners.
3. Depress the REC detecting lever and the half detecting levers at the inside of the set and remove the cassette-ornament plate.
4. When reinstalling the cassette-ornament plate, perform the steps in a reverse manner.

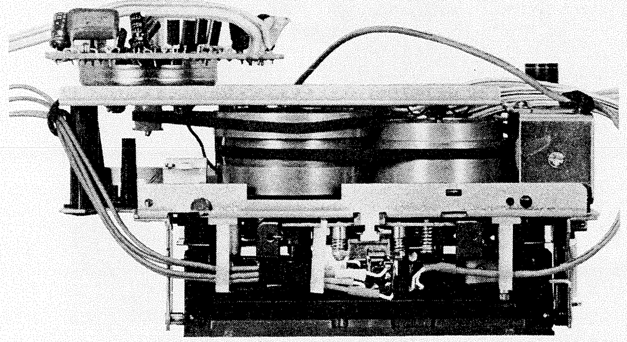

claw
cassette-ornament plate

MECHANISM SECTION PHOTOGRAPHS

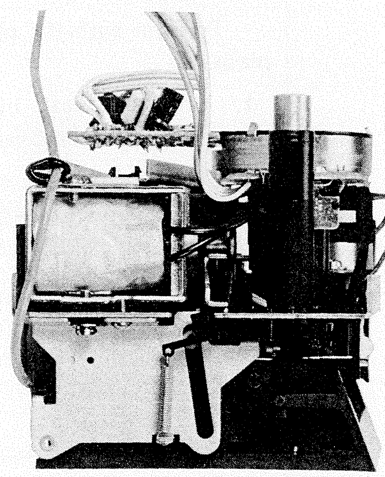
1. Top View with Cassete Holder Shut:



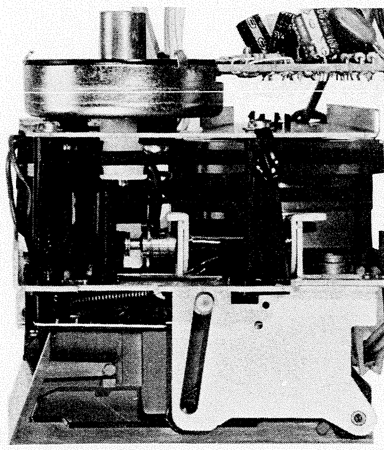
2. Bottom View with Cassette Holder Shut:



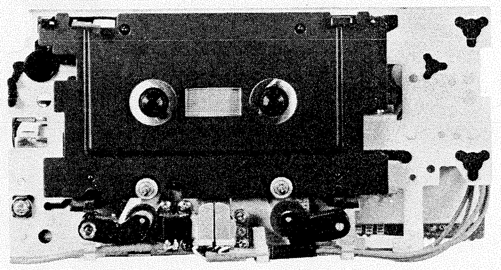
3. Left Side View with Cassette Holder Shut:



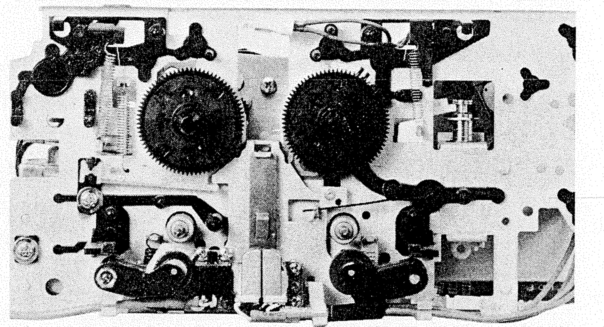
4. Right Side View with Cassette Holder Shut:



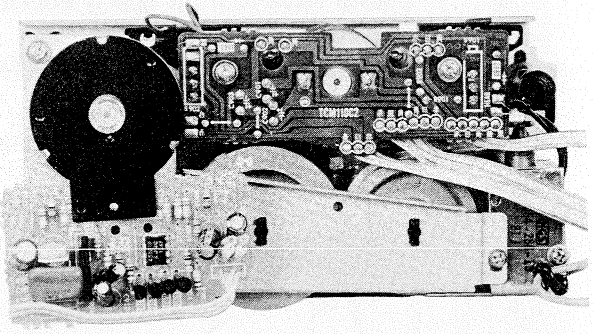
5. Front View with Cassette Holder Removed:



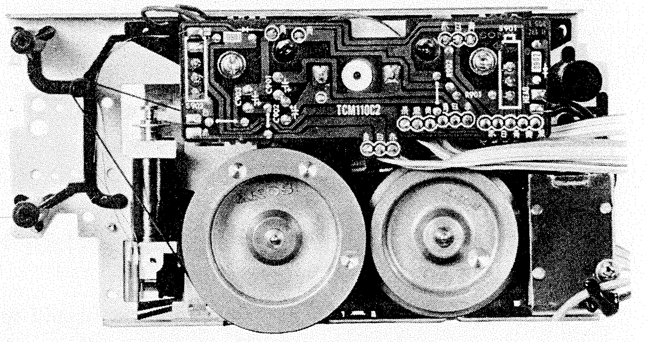
6. Front View with Cassette Holder and Cassette-Ornament Plate Removed:



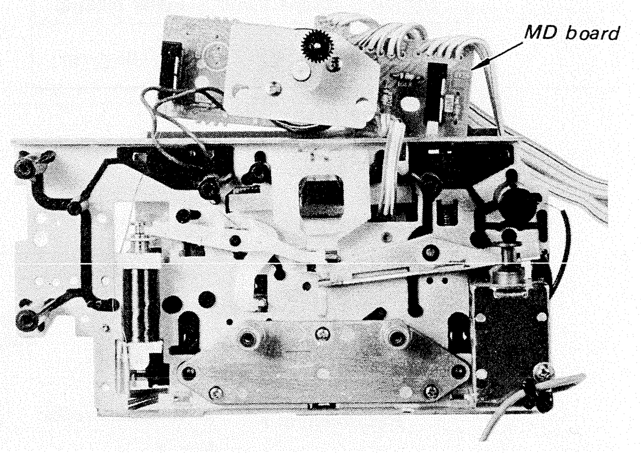
7. Rear View:



8. Bottom View with Thrust Retainer and DC Motor Removed:



9. Bottom View with Switch Board and Flywheel (T) Removed:



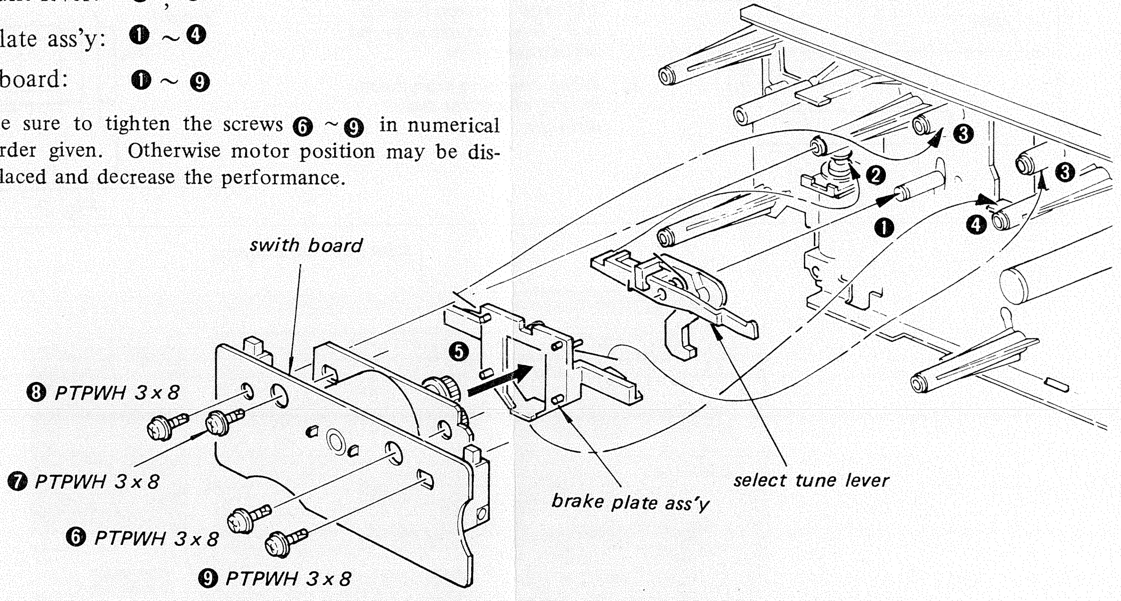
SELECT TUNE LEVER/BRAKE PLATE ASS'Y/ SWITCH BOARD

Select tune lever: ❶ , ❷

Brake plate ass'y: ❶ ~ ❹

Switch board: ❶ ~ ❾

Note: Be sure to tighten the screws ❻ ~ ❾ in numerical order given. Otherwise motor position may be displaced and decrease the performance.


❸
❷
❸
❶
❹
❺
swith board
❽ PTPWH 3×8
❼ PTPWH 3×8
❻ PTPWH 3×8
❾ PTPWH 3×8
brake plate ass'y
select tune lever

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

FF/REW Torque Measurement

Torque	Torque meter	Meter reading
FF REW	CQ-201B	65 – 85 g•cm

Tape Path Adjustment

1. Insert a mirror cassette (CQ-009C).
2. Set for forward mode and confirm that there is no tape curl at the tape guides and recording head.
3. If there is curl, turn the adjust nut and raise and lower the supply side pinch roller (with tape guide attached) to adjust.
4. If step 3 does not get rid of the curl, adjust further by turning adjustment screws A, B, C less than 1/2 turn in the same direction at the same angle.
5. Confirm that the erase head height is as shown in Figure 2.
6. Check tape wrinkling (zigzag).
   Tighten adjust screw D if the tape is wrinkling up. (clockwise)
   Loosen screw D if the tape is wrinkling downward. (conterclockwise)
   Repeat step 5 after adjusting screw D as necessary, within 1/2 turn.
7. Lock the screw with locking compound.

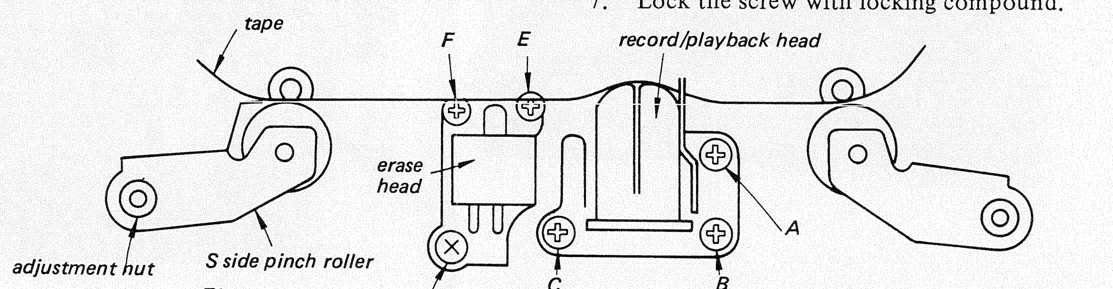

tape
F
E
record/playback head
erase head
A
adjustment nut
S side pinch roller
C
B
D

Fig. 1

*When replacing the pinch roller, be sure that the measurements are as shown below when attaching it. (After installation, perform the above adjustment.)

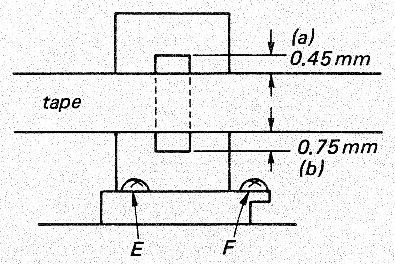

(a)
0.45 mm
tape
0.75 mm
(b)
E
F

Fig. 2

1. Loosen screws E, F so that the ratio between a and b is 3 : 5 and adjust with the adjustment shim.
2. When changing erase head height, check for tape wrinkling.

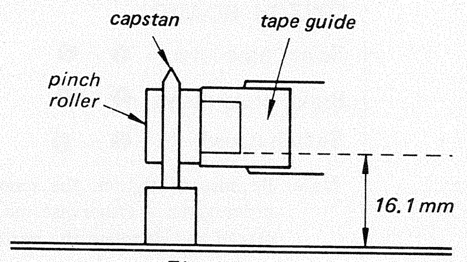
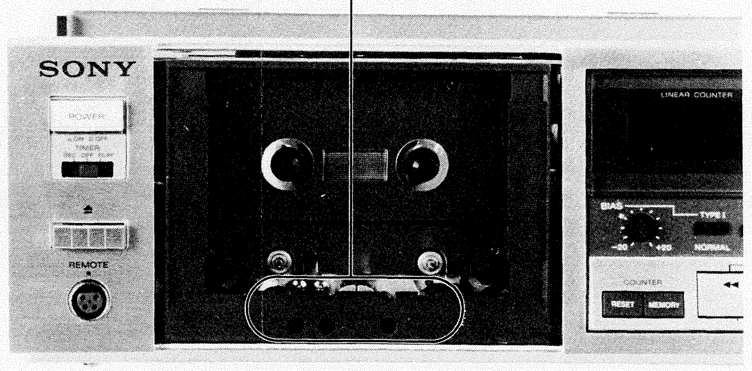

capstan
tape guide
pinch roller
16.1 mm

Fig. 3

tape path adjustment


SONY
POWER
REMOTE
LINEAR COUNTER
BIAS
NORMAL
COUNTER
RESET
MEMORY

Head Base Position Adjustment

Perform the following adjustment when replacing the head base solenoid.

Perform with the old head base solenoid still in place.

1. Press the head base solenoid core with the finger until the head base stops moving.
2. Draw a line as shown in Figure 2. Replace with the new head base solenoid.
3. Loosen the mounting screw, match with the line drawn in step 2, and tighten the screw.
4. Lock the screw after adjustment.

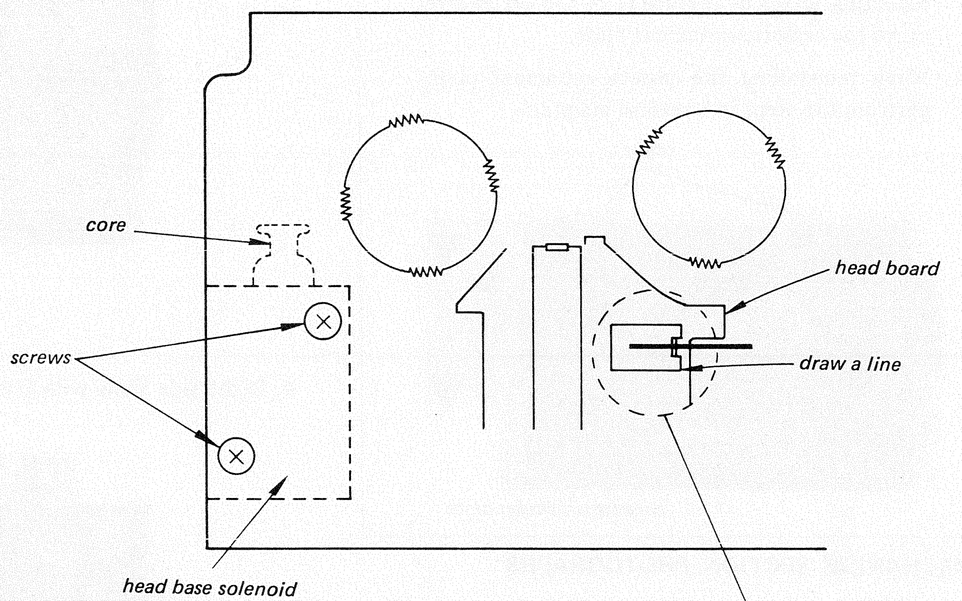

core
screws
head board
draw a line
head base solenoid

Fig. 1

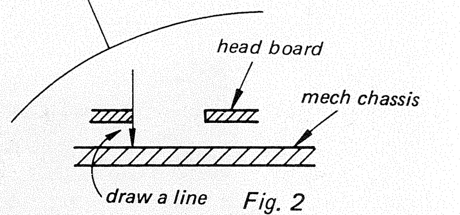
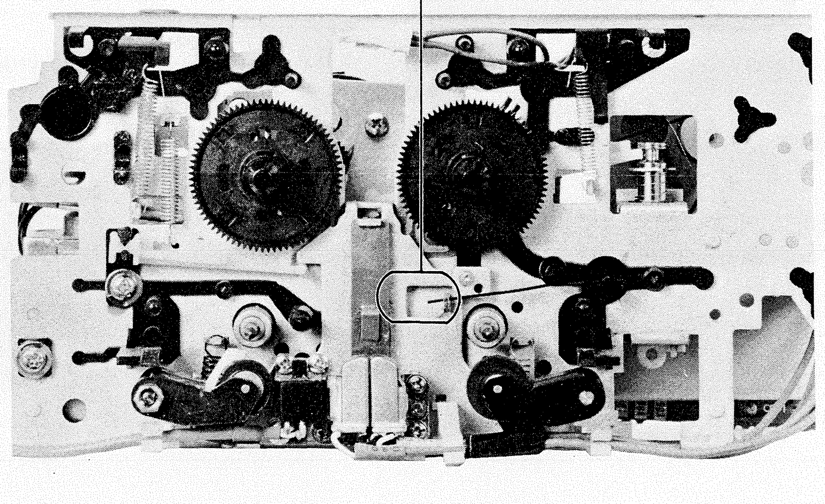

head board
mech chassis
draw a line

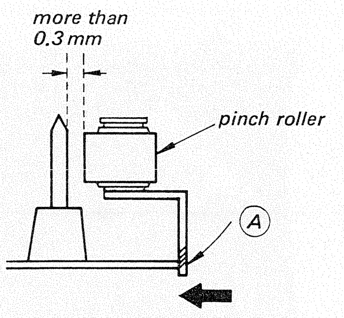
Fig. 2

head base position adjustment



Pinch Roller Clearance Adjustment

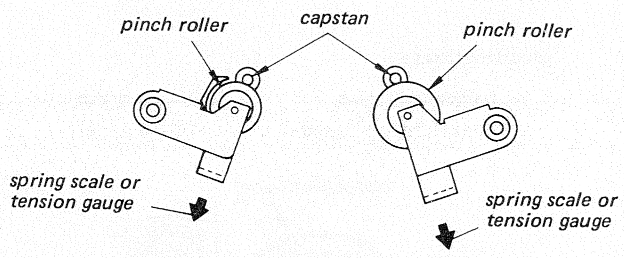
1. Confirm that the clearance between the pinch roller and capstan is more than 0.3 mm in pause mode.
2. If it is less than 0.3 mm, bend Ⓐ in the direction of the arrow.

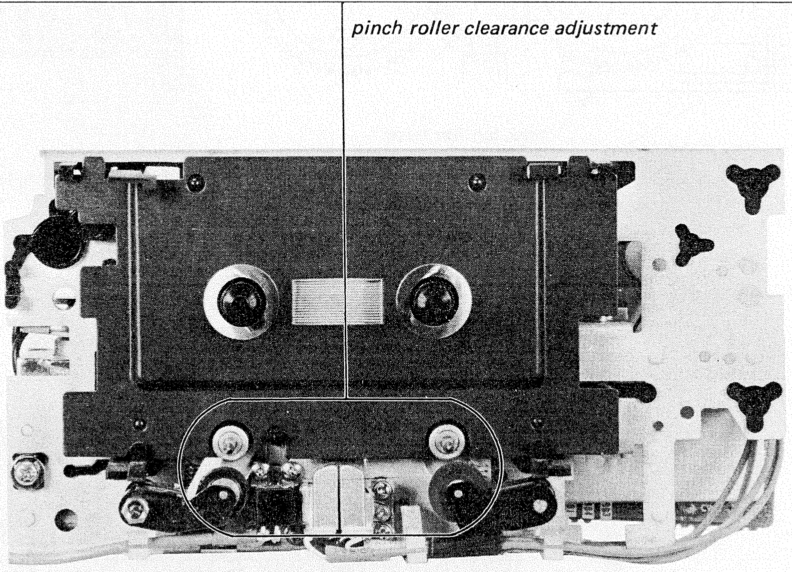

more than
0.3 mm
pinch roller
A

Pinch Roller Pressure Measurement

1. Confirm that the pinch roller is parallel to the capstan.
2. Set in forward, move the pinch roller away from the capstan, then back toward it, and measure the value at the point where the pinch roller begins to rotate.

T side	270 – 330 g
S side	180 – 280 g


pinch roller
capstan
pinch roller
spring scale or tension gauge
spring scale or tension gauge

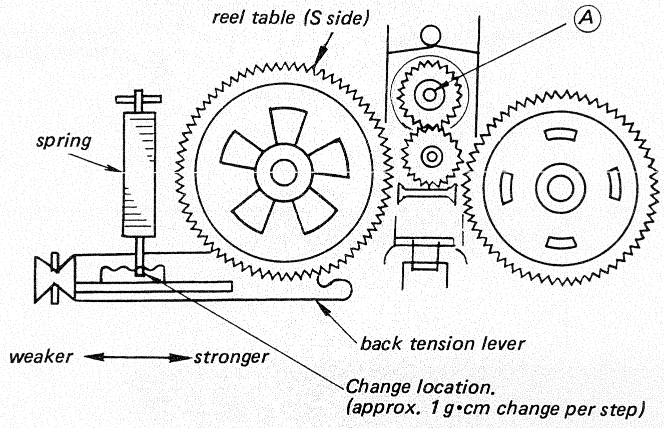

pinch roller clearance adjustment

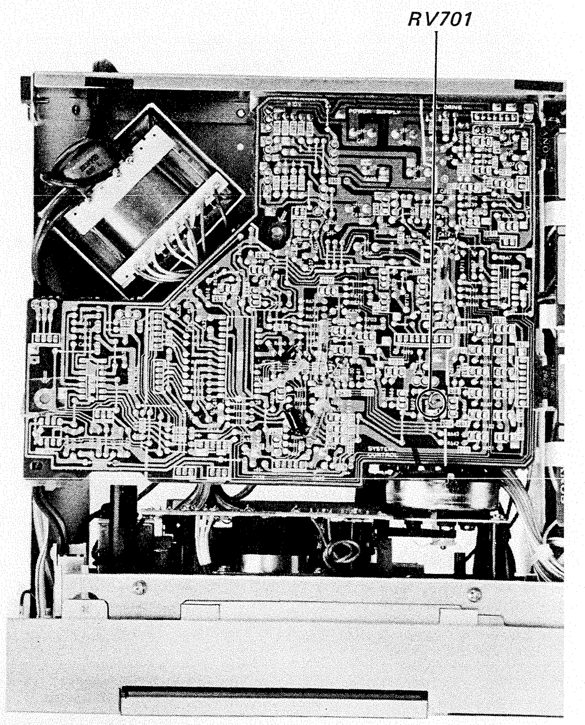
Forward Torque Adjustment

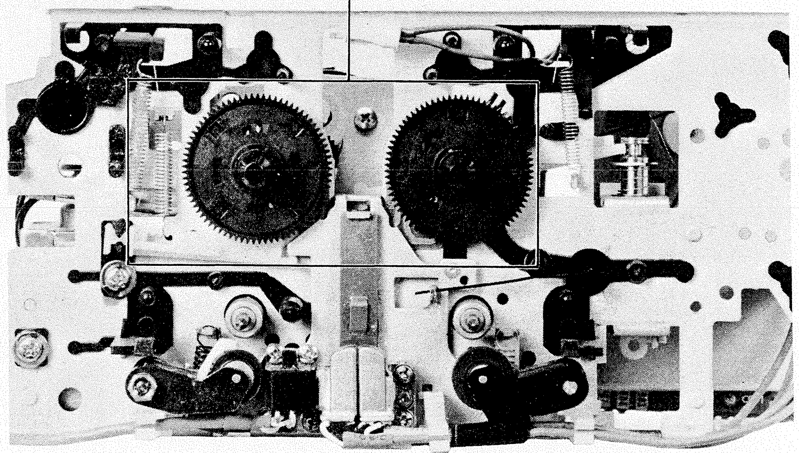
1. Remove the ornamental plate.
2. Press the cassette detection switch and T side reel table simultaneously by hand and then press the forward button. In this state, hold the T reel table so that it does not rotate.
3. Now adjust RV701 to the position where Ⓐ begins to rotate.
   (It will shut off immediately, so press the forward button to repeat.)
4. Next insert CQ-102C, and measure forward torque and back tension torque. If back tension torque is not within the specifications, change the location where the spring is hooked.

Specifications:

forward torque: 30 – 60 g•cm
back tension torque: 7 – 9 g•cm


reel table (S side)
Ⓐ
spring
back tension lever
weaker
stronger
Change location.
(approx. 1 g•cm change per step)





3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE switches according to the tape as follows.

Tape	TAPE switch
CS-15	TYPE I
CS-20	TYPE II
CS-30	TYPE III
CS-40	TYPE IV

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch:	OFF
TAPE switch:	TYPE I
TIMER switch:	OFF
LINE OUT/HEADPHONES:	MAX

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (−10 dB)

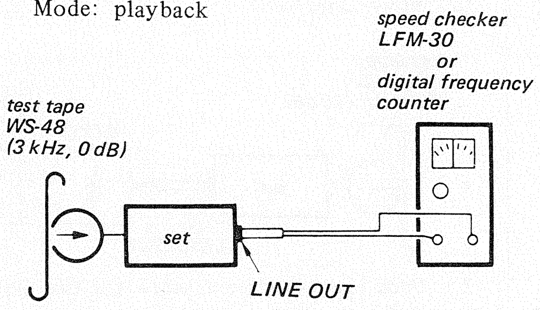
Standard Output Level

	HEADPHONES	LINE OUT
load impedance	8 Ω	47 kΩ
output level	77 mV (−20 dB)	0.44 V (−5 dB)

Tape Speed adjustment

Procedure:

Mode: playback

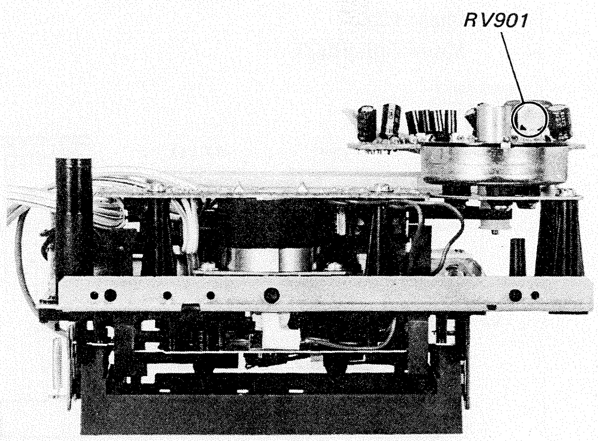


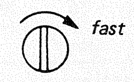
Specification:

Speed checker	Digital frequency counter
−0.17 to +0.17%	2,995 – 3,005 Hz

Frequency difference between the beginning and the end of the tape should be within 0.34% (10 Hz).

Adjustment Location:

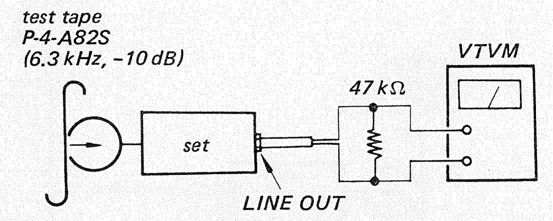




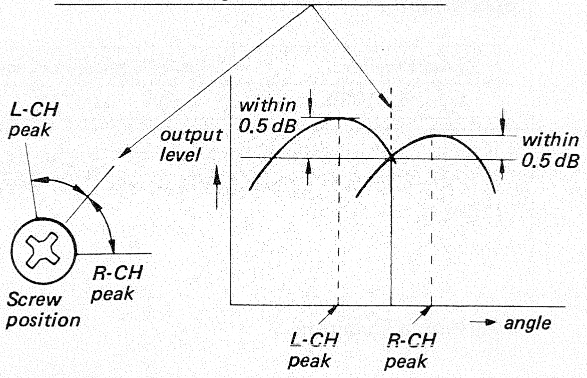
Record/playback Head Azimuth Adjustment

Procedure:

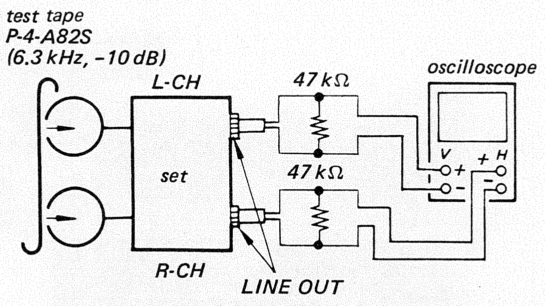
1. Mode: playback

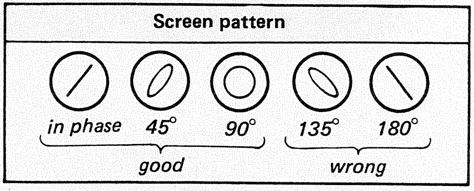

test tape
P-4-A82S
(6.3 kHz, -10 dB)
VTVM
47 kΩ
set
LINE OUT

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.

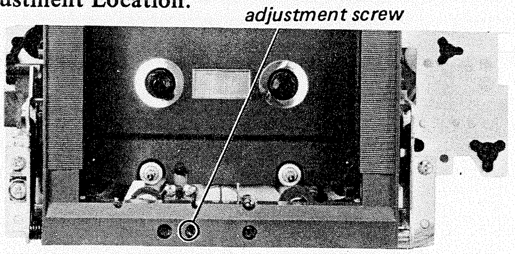

L-CH
peak
output
level
within
0.5 dB
within
0.5 dB
R-CH
peak
Screw
position
angle
L-CH
peak
R-CH
peak

3. Phase Check
   Mode: playback


test tape
P-4-A82S
(6.3 kHz, -10 dB)
L-CH
47 kΩ
oscilloscope
set
47 kΩ
V
H
R-CH
LINE OUT


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

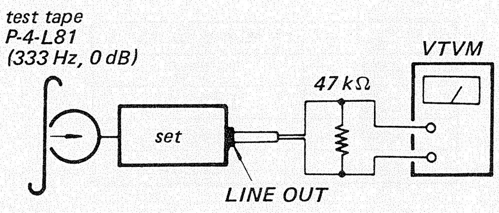
Adjustment Location:


adjustment screw

Playback Level Adjustment

Procedure:

Mode: playback


test tape
P-4-L81
(333 Hz, 0 dB)
VTVM
47 kΩ
set
LINE OUT

Specification:

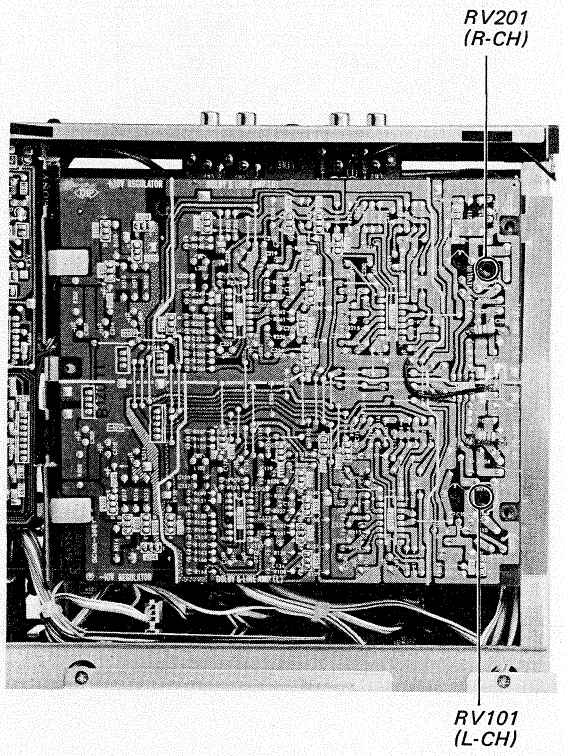
LINE OUT level: 0.52 ~ 0.59 V
(-3.5 ~ -2.5 dB)

Level difference between channels:
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

– record/playback board –


RV201
(R-CH)
RV101
(L-CH)

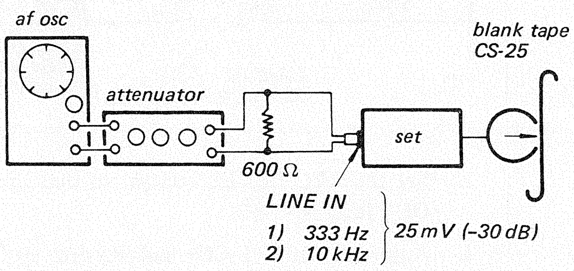
Record Bias Adjustment

Setting:

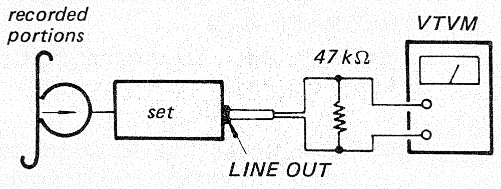
REC LEVEL control: standard record (See page 27)

Procedure:

1. Mode: record


af osc
attenuator
600 Ω
set
blank tape
CS-25
LINE IN
1) 333 Hz
2) 10 kHz
25 mV (-30 dB)

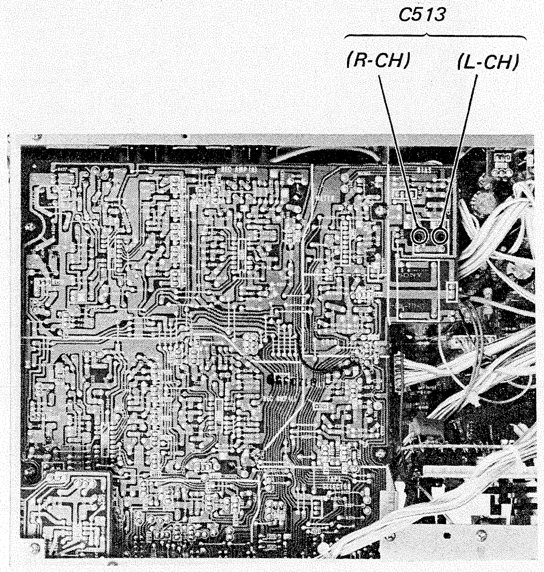
2. Mode: playback


recorded
portions
set
47 kΩ
VTVM
LINE OUT

Addust C513 (L-CH), (R-CH) so that the LINE OUT level of 333 Hz signal is 0 dB relative to that of 10 kHz.

Adjusting Location:

– record/playback board –


C513
(R-CH)
(L-CH)

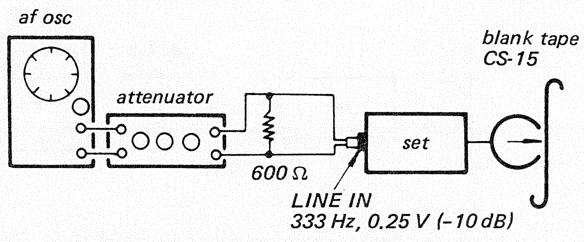
Record Level Adjustment

Setting:

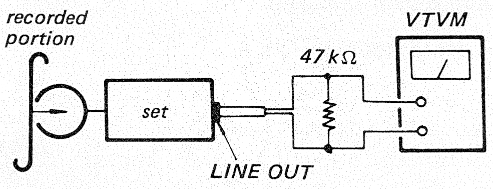
REC LEVEL control: standard record (See page 27)

Procedure:

1. Mode: record


af osc
attenuator
600 Ω
set
blank tape
CS-15
LINE IN
333 Hz, 0.25 V (-10 dB)

2. Mode: playback

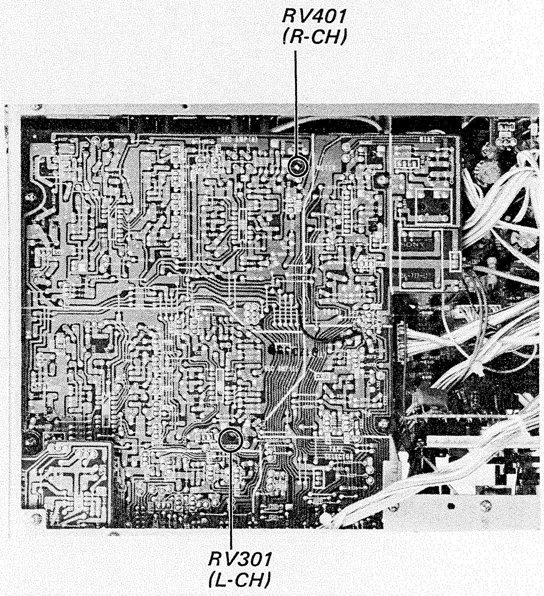

recorded
portion
set
47 kΩ
VTVM
LINE OUT

Specification:

LINE OUT level: 0.41 ~ 0.46 V
(-5.5 ~ -4.5 dB)

Adjustment Location:

– record/playback board –


RV401
(R-CH)
RV301
(L-CH)

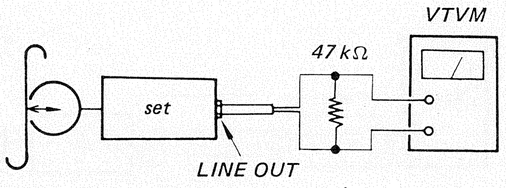
Bias Trap Adjustment

Setting:

MONITOR: TAPE
TAPE: TYPE IV

Procedure:

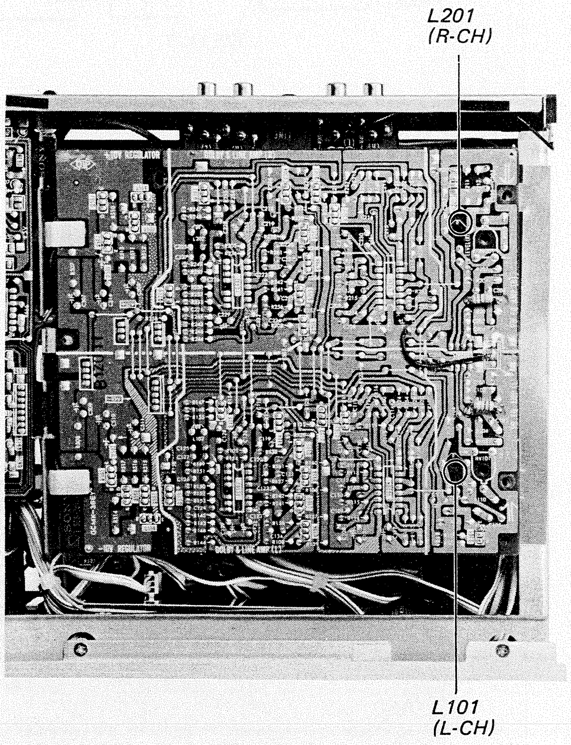
1. record and playback mode


VTVM
47 kΩ
set
LINE OUT

In record and forward mode, adjust L101 (L-CH), L201 (R-CH) so that the LINE OUT level is minimum on the VTVM.

Adjustment Location:

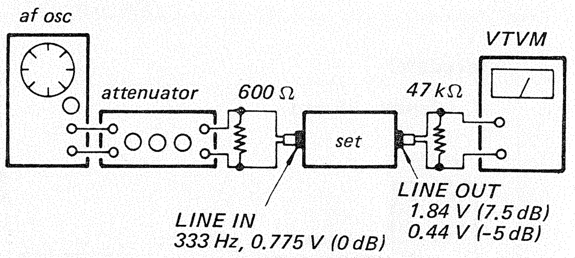
– record/playback board –


L201
(R-CH)
L101
(L-CH)

Level Meter Calibration

Procedure:

1. Mode: record

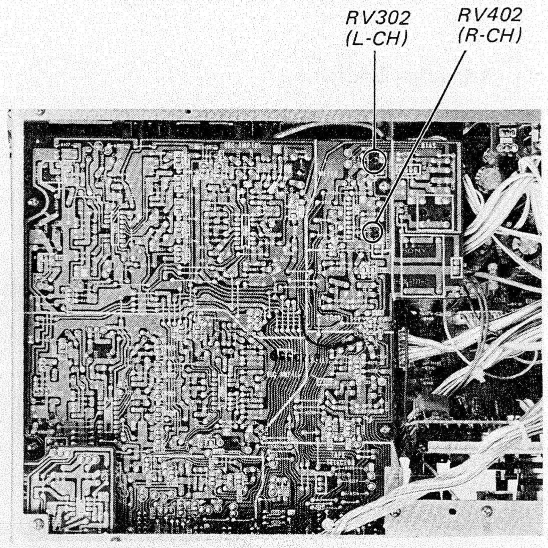

af osc
attenuator
600 Ω
set
47 kΩ
VTVM
LINE IN
333 Hz, 0.775 V (0 dB)
LINE OUT
1.84 V (7.5 dB)
0.44 V (-5 dB)

1. Set the REC LEVEL control so that the LINE OUT level is –5 dB.
2. Adjust RV302 (L-CH) and RV402 (R-CH) so that the LEDs including 4 dB (right-most element) light up.
3. Set the REC LEVEL control so that the LINE OUT level is –8 dB. Make sure that LED meter indicates –4 dB (0 VU) in this time.

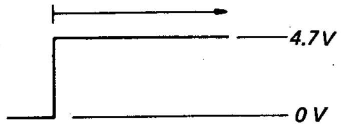
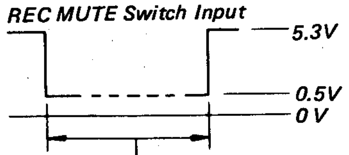
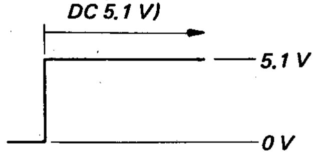
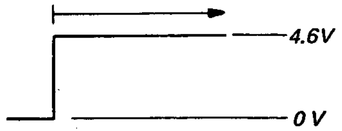
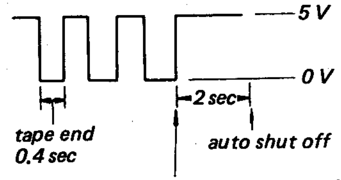
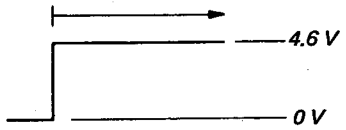
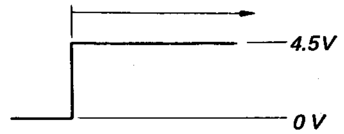
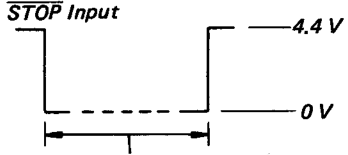
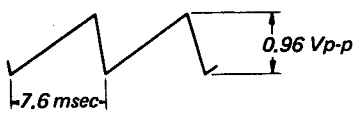
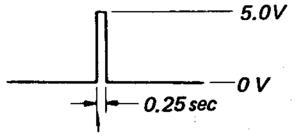
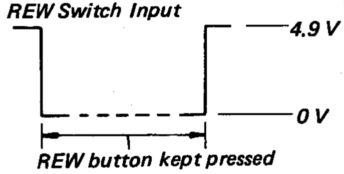
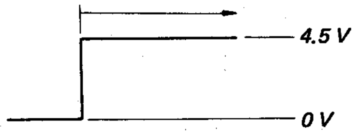
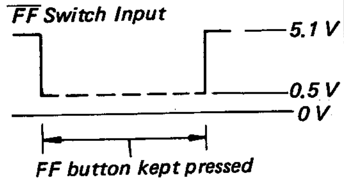
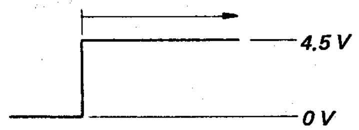
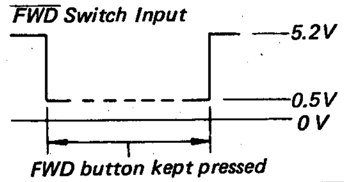
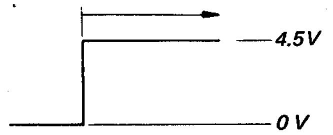
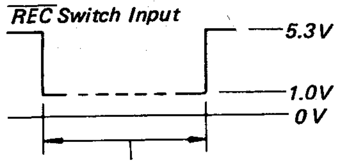
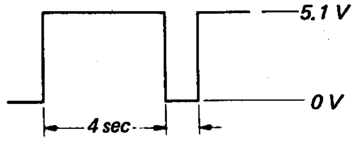
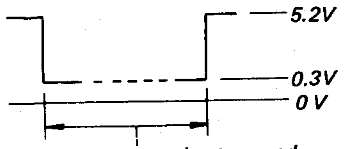
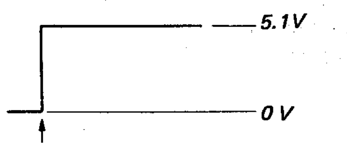
Note: Slide the REC LEVEL control rightward slowly. (Be careful to peakhold indication.)

Adjustment Location:

– record/playback board –

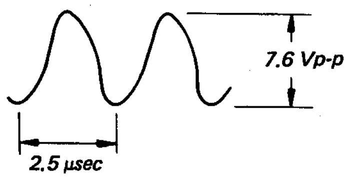
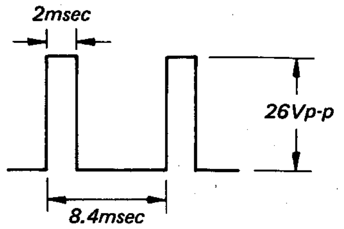
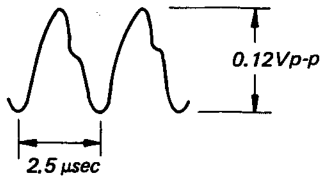
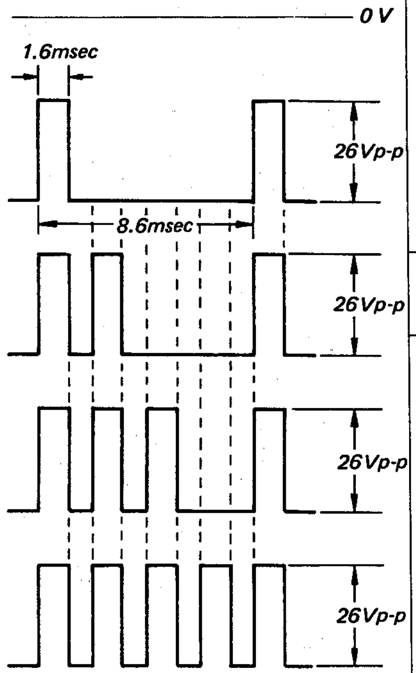
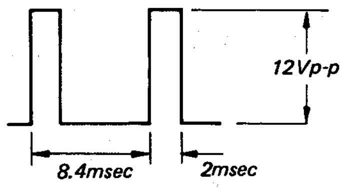
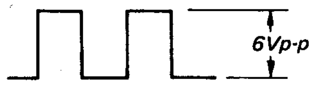
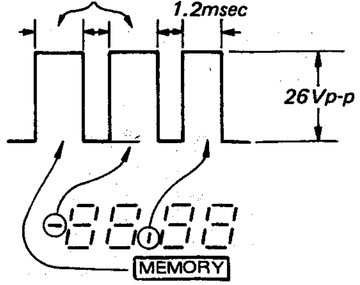
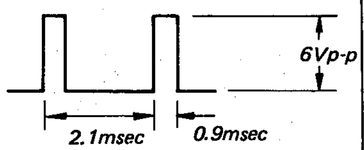
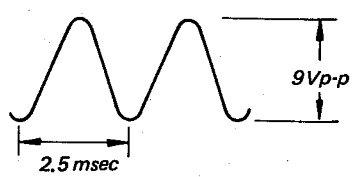

RV302
(L-CH)
RV402
(R-CH)

IC601's Terminal Name, Waveform and/or Voltages

Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages
①	*REC lamp Drive Signal* *REC mode* 	⑩	*REC MUTE Switch Input*  *REC MUTE button kept pressed*	㉑	*Line-Muting Signal* *FWD mode or REC mode* *(only record switch ON DC 5.1 V)* 
②	*FWD Lamp Drive Signal* *FWD mode* 	⑪	*Auto Shut-Off Signal*  5 V 0 V 2 sec tape end 0.4 sec auto shut off *becomes in stop mode at tape end in forward mode. (may become in 0 V according to the position of take-up reel spindle.)*	㉒	*(not used in this set)*
③	*PAUSE Lamp Drive Signal* *PAUSE mode* 	⑫	*Tape Counter Input DC 5.2V*	㉓	*Head-Solenoid Drive Signal* *FWD mode* 
④	*STOP Input*  *stop button kept pressed*	⑬	*Clock Signal*  0.96 Vp-p 7.6 msec	㉔	*AMS Solenoid Drive Signal*  5.0V 0 V 0.25 sec *FWD button ON*
⑤	*REW Switch Input*  *REW button kept pressed*	⑭	*GND 0 V*	㉕	*Reel-Motor Drive Signal* *in Forward Mode* *FWD mode* 
⑥	*FF Switch Input*  *FF button kept pressed*	⑮	*(not used in this set)*	㉖	*Reel-Motor Drive Signal* *in Fast-Forward Mode* *FF mode* 
⑦	*FWD Switch Input*  *FWD button kept pressed*	⑯	*(not used in this set)*	㉗	*Reel-Motor Drive Signal* *in Rewind Mode* *REW mode* 
⑧	*REC Switch Input*  *REC button kept pressed*	⑰	*Timer Signal (TIMER)*  5.1 V 0 V 4 sec 0.5 sec *POWER Switch ON (regardless of position of TIMER switch)*	㉘	*B + Supply Voltage DC 6V*
⑨	*PAUSE Switch Input*  *PAUSE button kept pressed*	⑱	*Reset Signal (RESET) DC 4.4V*		
		⑲	*Record-Muting Signal*  *REC MUTE switch ON in record mode*		
		⑳	*(not used in this set)*		

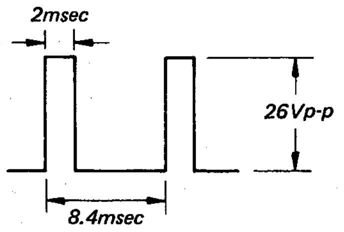
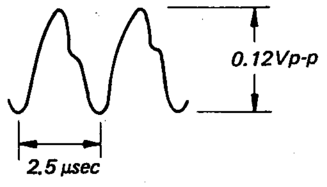
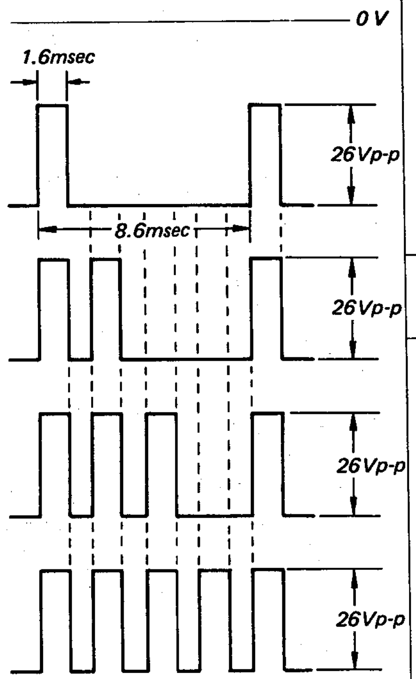
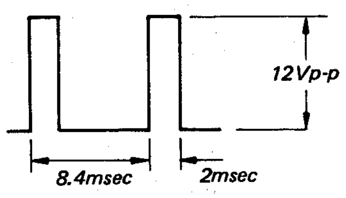
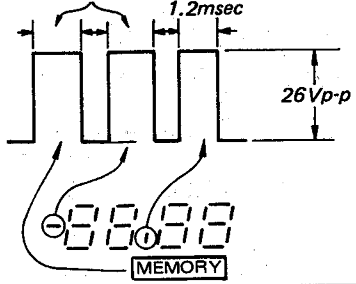
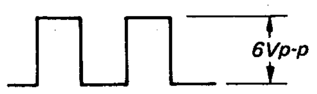
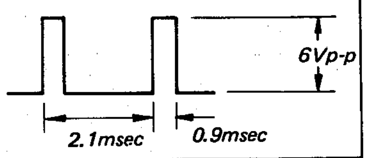
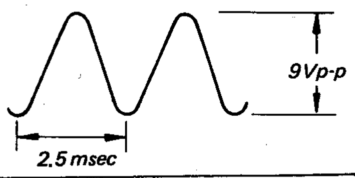
Note: Voltages are measured with an oscilloscope (10 MΩ probe). So readings are different from the mounting diagram and schematic diagram measured with a VOM.

IC802's Terminal Name, Waveform and/or Voltages

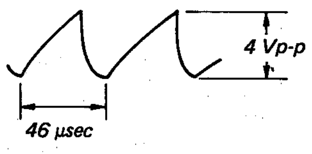
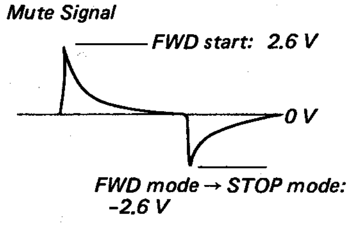
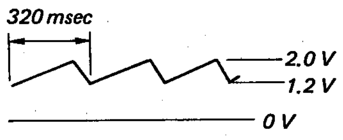
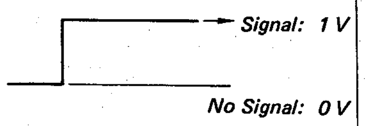
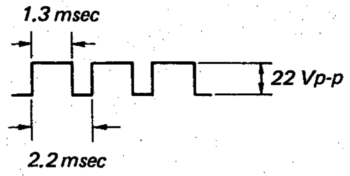
Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages
①	*Clock Signal*  7.6 Vp-p 2.5 μsec	③, ④	*FF Mode* *Capstan Motor Drive Signal* *STOP mode: DC 24.5V* *FWD mode: DC 13.5V* *FF Mode: DC 0V*	⑯ ⑰ ⑱ ⑲	*Drive Signal for Grids G1 through G4 of Fluorescent Display Tube*  2msec 26Vp-p 8.4msec
②	*Reel Motor Drive Signal in Rewind Mode* *STOP mode: DC24.5V* *REW mode: DC13.5V*	⑤	*Counter "0" Output*  0.12Vp-p 2.5 μsec	⑳	*B + Supply Voltage* *DC 26V*
⑥	*Drive Signal for "a" Segment of Fluorescent Display Tube.* *1) In case of all "a" segments are not lit, i.e., all of the four digits are "1" or "4".* *2) In case of only one out of four "a" segments lit, i.e., one of the four digits is "0", "2", "3", "5", "6", "7", "8", or "9" and all others are "1" or "4".* *3) In case of only two out of four "a" segments lit as in the case of 2) above.* *4) In case of only three out of four "a" segments lit as in the case of 2) above.* *5) In case of all of the four "a" segments lit likewise.*  0 V 1.6msec 26Vp-p 8.6msec 26Vp-p 26Vp-p 26Vp-p			㉑	*Drive Signal for "MEMORY" of Fluorescent Display Tube*  12Vp-p 8.4msec 2msec
				㉒	*B + Supply Voltage* *DC 26V*
				㉓ (ϕ2) ㉔ (ϕ1)	*ϕ1 or ϕ2 – Signal Input from Photo Transistors fast forward and rewind modes:*  *Pluse width varies according to tape take-up. (Stop mode: 10.6 V DC or 0 V according to the position of photo transistors)*
⑦	*Drive Signal for "b" Segments of Fluorescent Dsiplay Tube same as pin ⑥ for Segment "a".*	⑬	*Drive Signal ("DP"(dot) "–"(minus) "MEMORY") of Fluorescent Display Tube*  1.6msec 1.2msec 26Vp-p MEMORY	㉕	*1.5 kHz Clock Signal (INT)*  6Vp-p 2.1msec 0.9msec
⑧	*Drive Signal for "c" Segments of Fluorescent Display Tube same as pin ⑥ for Segment "a".*			㉖	*RESET Signal* *13.5V*
⑨	*Drive Signal for "d" Segments of Fluorescent Display Tube same as pin ⑥ for Segment "a".*			㉗	*GND (Ground)* *12.5V*
⑩	*Drive Signal for "e" Segments of Fluorescent Display Tube same as pin ⑥ for Segment "a".*			㉘	*Clock Signal*  9Vp-p 2.5msec
⑪	*Drive Signal for "f" Segments of Fluorescent Display Tube same as pin ⑥ for Segment "a".*	⑭	*B + Supply voltage* *26V*		
⑫	*Drive Signal for "g" Segments of Fluorescent Display Tube same as pin ⑥ for Segment "a".*	⑮	*TEST Terminal* *26V*		

Pin No.
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮

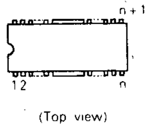
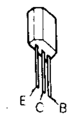
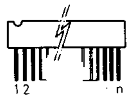
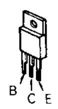
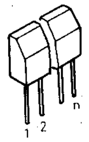
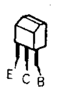
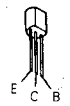
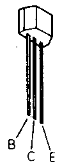
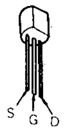
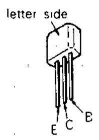
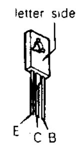
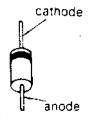
rminal Name, Waveform and/or Voltages

Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages
),④	*FF Mode* *Capstan Motor Drive Signal* *STOP mode: DC 24.5V* *FWD mode: DC 13.5V* *FF Mode: DC 0V*	⑯ ⑰ ⑱ ⑲	*Drive Signal for Grids G1 through G4 of Fluorescent Display Tube* 
⑤	*Counter "0" Output* 	⑳	*B + Supply Voltage* *DC 26V*
		㉑	*Drive Signal for "MEMORY" of Fluorescent Display Tube* 
⑬	*Drive Signal ("DP"(dot) "–"(minus) "MEMORY") of Fluorescent Display Tube* 	㉒	*B + Supply Voltage* *DC 26V*
⑭	*B + Supply voltage* *26V*	㉓ (φ2) ㉔ (φ1)	*φ1 or φ2 – Signal Input from Photo Transistors fast forward and rewind modes:*  *Pluse width varies according to tape take-up. (Stop mode: 10.6 V DC or 0 V according to the position of photo transistors)*
⑮	*TEST Terminal* *26V*	㉕	*1.5 kHz Clock Signal ($\overline{INT}$)* 
		㉖	*$\overline{RESET}$ Signal* *13.5V*
		㉗	*GND (Ground)* *12.5V*
		㉘	*Clock Signal* 

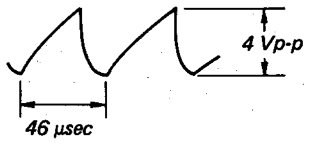
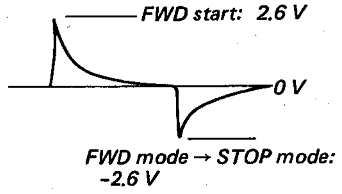
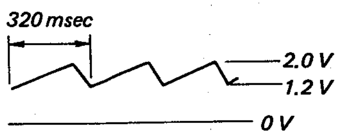
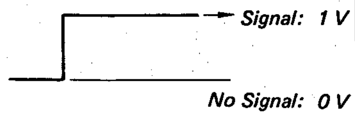
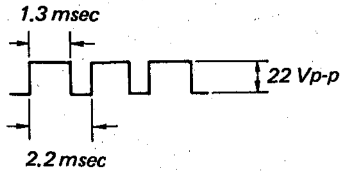
IC801's Terminal Name, Waveform and/or Voltages

Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages
①	*"B2" (dot) Drive signal* *R and L channel signal: 20.5 V* *R or L channel signal: 10.5 V*	⑯	*(not used in this set)*	㉖	*R-CH Grid Control Output Signal* *Same as ㉕*
②	*"B3" (dot) Drive Signal* *Same as ①*	⑰	*GND 0 V*	㉗	*B+ Supply Voltage: 6 V*
③	*"B4" (dot) Drive Signal* *Same as ①*	⑱	*(not used in this set)*	㉘	*B+ Supply Voltage: 22 V*
④	*"B5" (dot) Drive Signal* *Same as ①*	⑲	*Clock Signal* 		
⑤	*"B6" (dot) Drive Signal* *Same as ①*	⑳	*Mute Signal* 		
⑥	*"B7" (dot) Drive Signal* *Same as ①*	㉑	*(not used in this set)*		
⑦	*"B8" (dot) Drive Signal* *Same as ①*	㉒	*MEMORY RESET Input Signal* 		
⑧	*"B9" (dot) Drive Signal* *Same as ①*	㉓	*R-CH Signal Input* 		
⑨	*"B10" (dot) Drive Signal* *Same as ①*	㉔	*L-CH Signal Input* *Same as ㉓*		
⑩	*"B11" (dot) Drive Signal* *Same as ①*	㉕	*L-CH Grid Control Output Signal* 		
⑪	*"B12" (dot) Drive Signal* *Same as ①*				
⑫	*"B13" (dot) Drive Signal* *Same as ①*				
⑬	*"B14" (dot) Drive Signal* *Same as ①*				
⑭	*"B15" (dot) Drive Signal* *Same as ①*				
⑮	*"B16" (dot) Drive Signal* *Same as ①*				

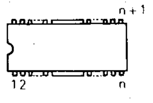
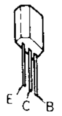
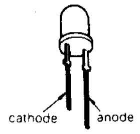
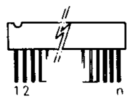
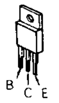
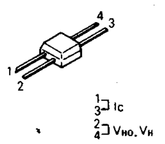
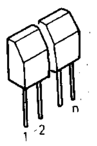
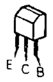
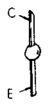
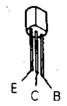
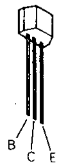
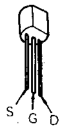
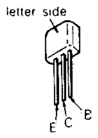
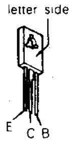
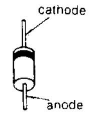
Semiconductor Lead Layouts

CX-174A **NJM2043D-D** **µPC4557C** **MSM58361RS** **µPC339C** **MB84069B** **MSL9359RS** **µPD554C089** **NJM4558D-FA** **NJM2903D** **CX-174-1** 	**2SA1027R** **2SA1026-7** 
BA6138 	**2SD880** 
CX-069A 	**2SD774** **2SB734** 
2SC1364 **2SC1364-8** **2SC1345** **2SC2001** **2SD1152** **2SA844** **2SC945-Q** **2SC1815** **2SB864** 	**2SB808** 
2SK30A-O 	**2SD1020** 
2SB731 **2SD809** 	**HZ6B1L** **1S1555** **10E-2** **EQA01-08RI** **HZ22-3L** **HZ27-IL** **RD7.5J-N1** **HZ9A2L** **HZ12C3L** 

minal Name, Waveform and/or Voltages

Pin No.	Waveform and/or Voltages	Pin No.	Waveform and/or Voltages
⑯	*(not used in this set)*	㉖	*R-CH Grid Control Output Signal* *Same as* ㉕
⑰	*GND 0 V*		
⑱	*(not used in this set)*	㉗	*B+ Supply Voltage: 6 V*
⑲	*Clock Signal* 	㉘	*B+ Supply Voltage: 22 V*
⑳	*Mute Signal* 		
㉑	*(not used in this set)*		
㉒	*MEMORY RESET Input Signal* 		
㉓	*R-CH Signal Input* 		
㉔	*L-CH Signal Input* *Same as* ㉓		
㉕	*L-CH Grid Control Output Signal* 		

Semiconductor Lead Layouts

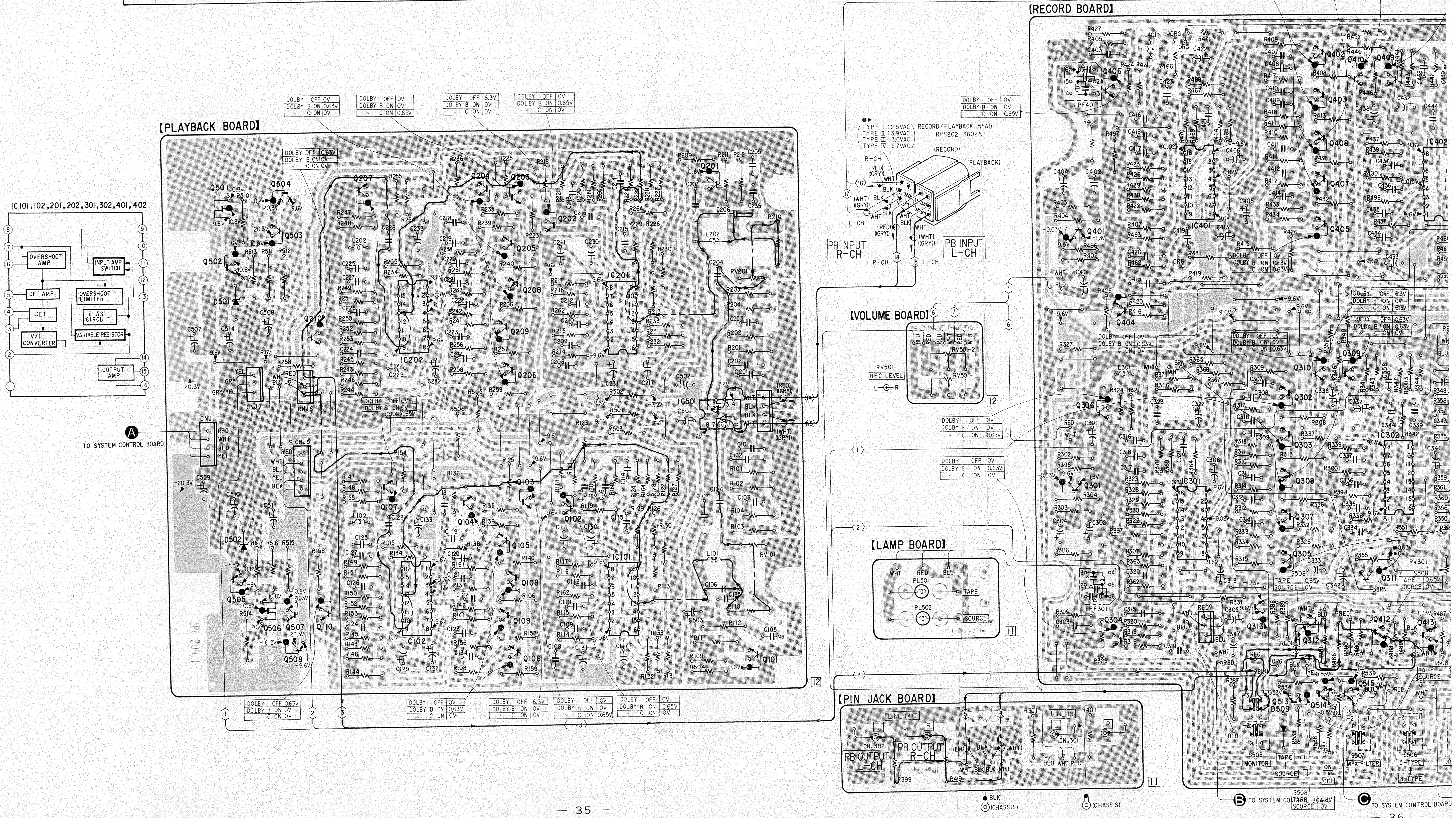
CX-174A **NJM2043D-D** **μPC4557C** **MSM58361RS** **μPC339C** **MB84069B** **MSL9359RS** **μPD554C089** **NJM4558D-FA** **NJM2903D** **CX-174-1**  (Top view)	**2SA1027R** **2SA1026-7** 	**SLR-34URC5** **SLR-34PG5** **SLR-34DU5**  cathode anode
BA6138 	**2SD880** 	**THS102**  1 2 3 4 1-3 Ic 2-4 VHO, VH
CX-069A 	**2SD774** **2SB734** 	**PH102** 
2SC1364 **2SC1364-8** **2SC1345** **2SC2001** **2SD1152** **2SA844** **2SC945-Q** **2SC1815** **2SB864** 	**2SB808** 	
2SK30A-O 	**2SD1020**  letter side E C B	
2SB731 **2SD809**  letter side E C B	**HZ6B1L** **1S1555** **10E-2** **EQA01-08RI** **HZ22-3L** **HZ27-IL** **RD7.5J-N1** **HZ9A2L** **HZ12C3L**  cathode anode	

SECTION 4
DIAGRAMS

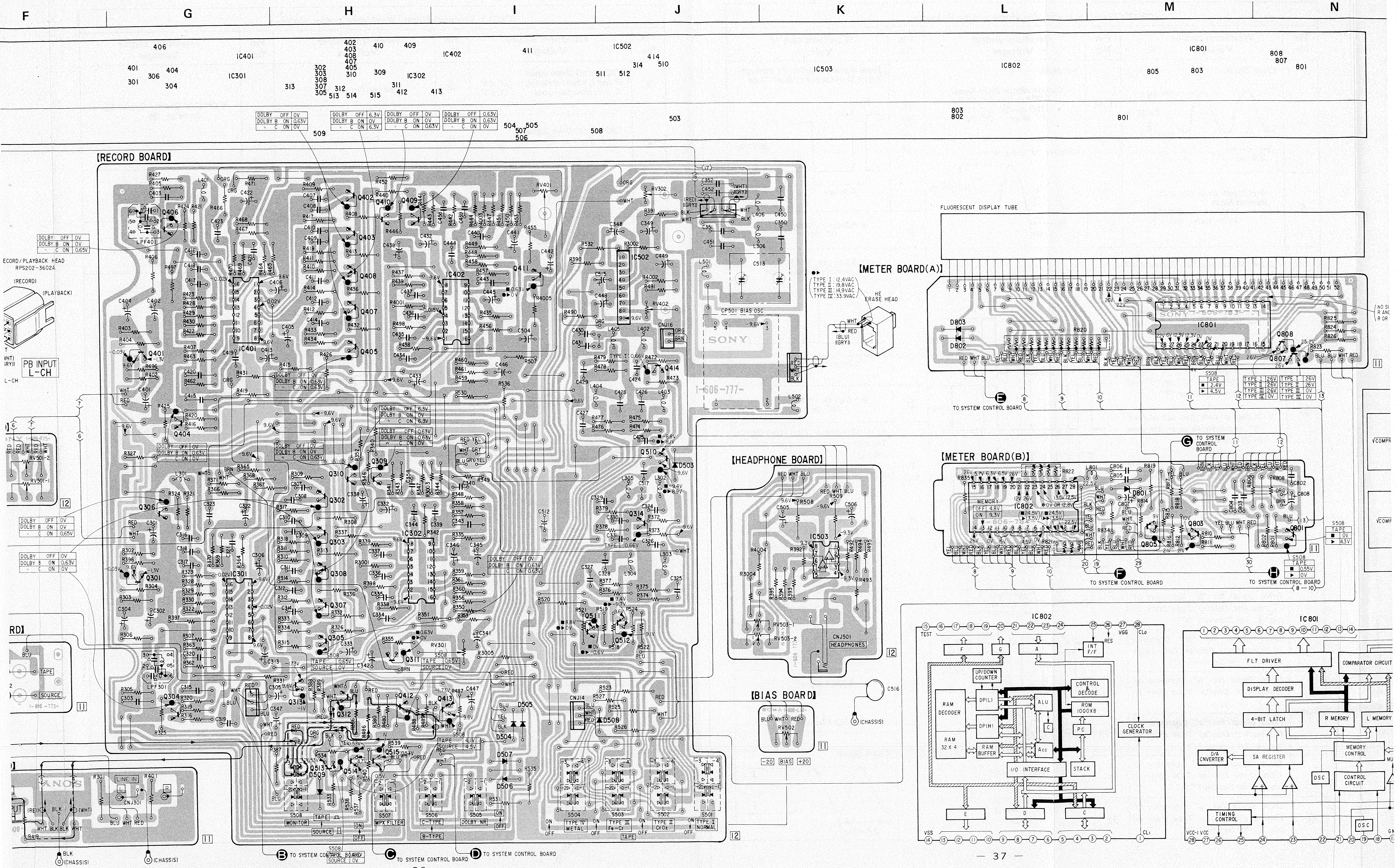
4-1. MOUNTING DIAGRAM

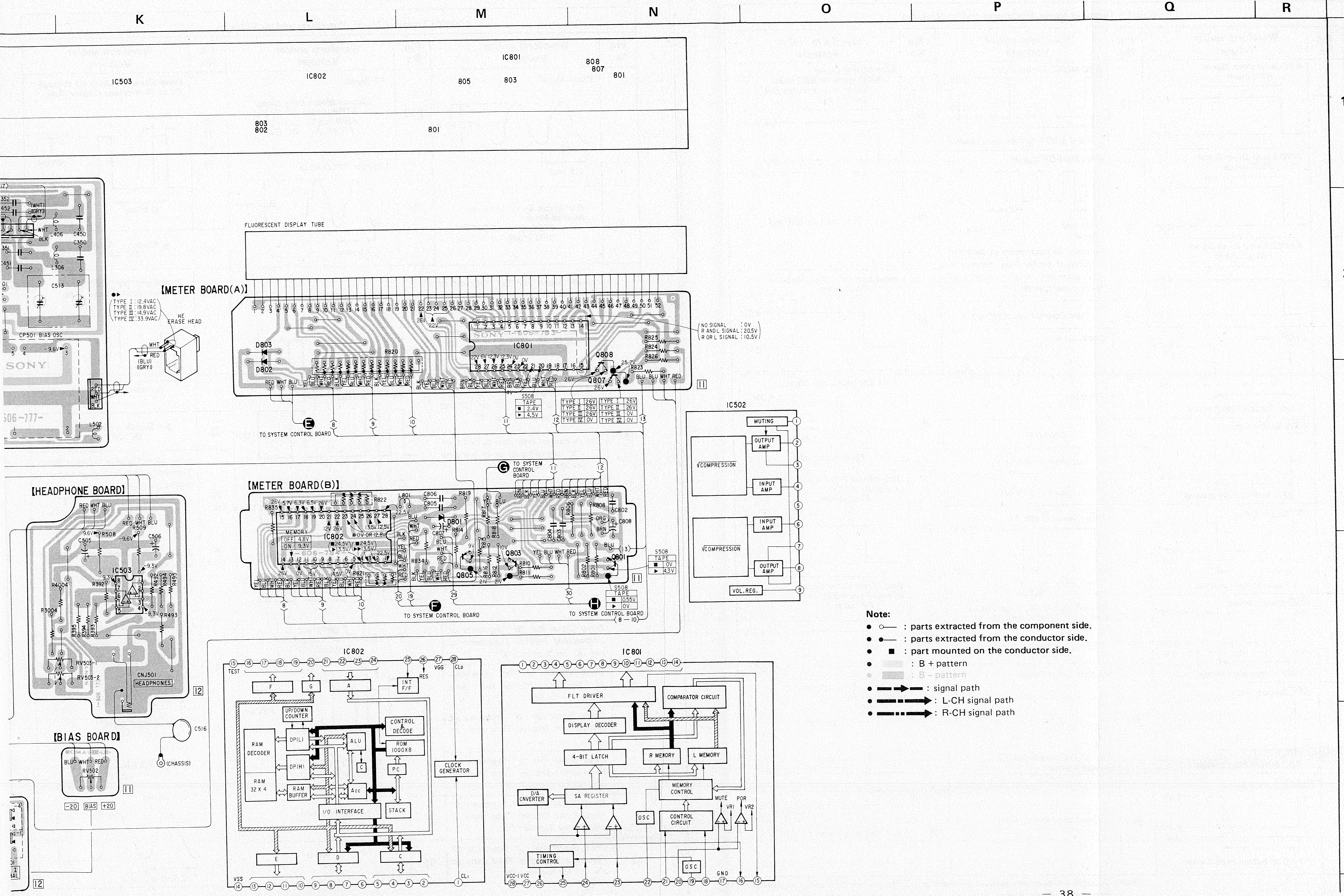
– Amp Section –

	A	B	C	D	E	F	G	H
Q IC		501 502 504 503 505 506 507 508	210 110 207 107 IC202 IC102 104 204	203 205 208 209 206 105 108 103 109 106 202 102 IC201 IC101	201 IC501 101		406 401 301 306 404 304 IC401 IC301	313 302 303 308 307 305 402 403 408 407 405 310 312 513 514 410 515 409 309 311 412 IC302 413 IC402
D		501 502						509



A B C D E F G H
1 2 3 4 5
IC101,102,201,202,301,302,401,402
OVERSHOOT AMP
INPUT AMP SWITCH
DET AMP
OVERSHOOT LIMITER
DET
BIAS CIRCUIT
V/I CONVERTER
VARIABLE RESISTOR
OUTPUT AMP
[PLAYBACK BOARD]
[RECORD BOARD]
[VOLUME BOARD]
[LAMP BOARD]
[PIN JACK BOARD]
TO SYSTEM CONTROL BOARD
RECORD/PLAYBACK HEAD RPS202-3602A
TYPE I : 2.5VAC
TYPE II : 3.9VAC
TYPE III : 3.0VAC
TYPE IV : 6.7VAC
PB INPUT R-CH
PB INPUT L-CH
REC LEVEL
TAPE
SOURCE
LINE OUT
LINE IN
PB OUTPUT L-CH
PB OUTPUT R-CH
(CHASSIS)
MONITOR
MPX FILTER
C-TYPE
B-TYPE
DOLBY OFF 0V
DOLBY B ON 0.63V
C ON 0V


F
G
H
I
J
K
L
M
N
[RECORD BOARD]
RECORD/PLAYBACK HEAD RP5202-3602A
(RECORD)
(PLAYBACK)
PB INPUT L-CH
DOLBY OFF 0V
DOLBY B ON 0.63V
C ON 0.65V
IC401
IC301
IC402
IC302
IC502
CP501 BIAS OSC
ERASE HEAD
TYPE I 12.4VAC
TYPE II 19.8VAC
TYPE III 14.9VAC
TYPE IV 33.9VAC
[HEADPHONE BOARD]
IC503
RV503-1
RV503-2
CNJ501 HEADPHONES
[BIAS BOARD]
RV502
-20 BIAS +20
C516
(CHASSIS)
FLUORESCENT DISPLAY TUBE
[METER BOARD(A)]
IC801
D803
D802
Q808
Q807
TO SYSTEM CONTROL BOARD
S508 TAPE
[METER BOARD(B)]
IC802
Q801
Q803
Q805
TO SYSTEM CONTROL BOARD
TO SYSTEM CONTROL BOARD 8 — 10
CNJ301
LINE IN
S508 MONITOR TAPE SOURCE
S507 MPX FILTER
S506 C-TYPE B-TYPE
S505 DOLBY NR
S504 TYPE IV METAL
S503 TYPE III Fe-Cr
S502 TYPE II CrO2
S501 TYPE I NORMAL
ON OFF
TO SYSTEM CONTROL BOARD
BLK (CHASSIS)
(CHASSIS)
IC802
TEST
VGG
RES
CLo
F
G
A
INT F/F
UP/DOWN COUNTER
RAM DECODER
RAM 32 X 4
DP(L)
DP(H)
RAM BUFFER
ALU
C
Acc
CONTROL & DECODE
ROM 1000X8
PC
STACK
I/O INTERFACE
CLOCK GENERATOR
E
D
C
VSS
CLi
IC801
FLT DRIVER
COMPARATOR CIRCUIT
DISPLAY DECODER
4-BIT LATCH
R MEMORY
L MEMORY
D/A CNVERTER
SA REGISTER
MEMORY CONTROL
OSC
CONTROL CIRCUIT
TIMING CONTROL
OSC
VCC-1 VCC

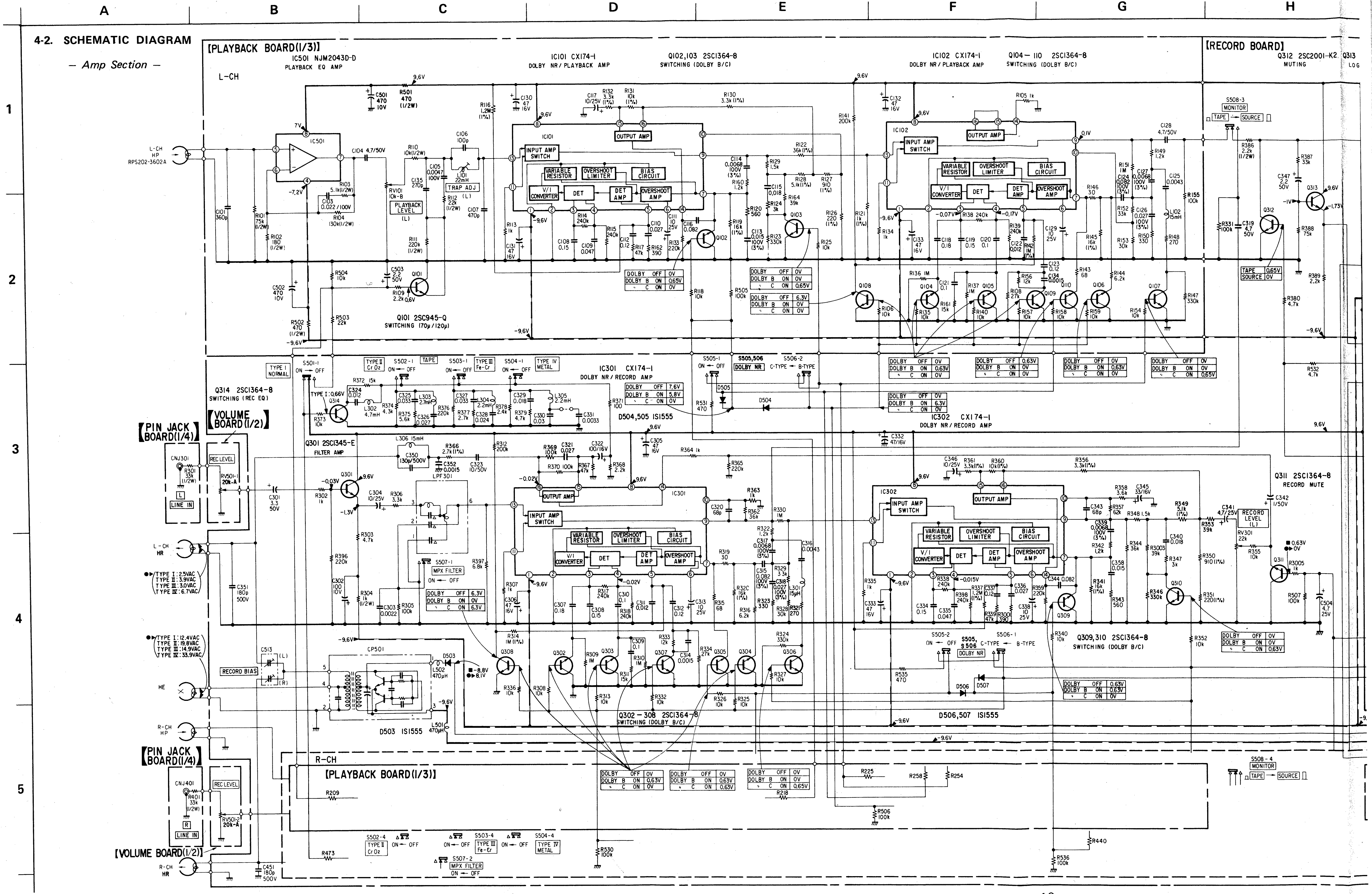

K
L
M
N
O
P
Q
R
1
2
3
4
5
IC503
IC802
IC801
805
803
808
807
801
803
802
801
FLUORESCENT DISPLAY TUBE
[METER BOARD(A)]
TYPE I : 12.4VAC
TYPE II : 19.8VAC
TYPE III : 14.9VAC
TYPE IV : 33.9VAC
HE ERASE HEAD
CP501 BIAS OSC
D803
D802
R820
Q808
Q807
NO SIGNAL : 0V
R AND L SIGNAL : 20.5V
R OR L SIGNAL : 10.5V
S508
TAPE
TO SYSTEM CONTROL BOARD
IC502
MUTING
OUTPUT AMP
√COMPRESSION
INPUT AMP
VOL.REG.
[HEADPHONE BOARD]
[METER BOARD(B)]
MEMORY
Q803
Q805
Q801
CNJ501
HEADPHONES
RV503-1
RV503-2
[BIAS BOARD]
RV502
BIAS
C516
(CHASSIS)
TEST
VGG
RES
CLo
F
G
A
INT F/F
UP/DOWN COUNTER
RAM DECODER
RAM 32 X 4
DP(L)
DP(H)
ALU
C
RAM BUFFER
Acc
CONTROL & DECODE
ROM 1000X8
PC
STACK
I/O INTERFACE
CLOCK GENERATOR
E
D
VSS
CLi
FLT DRIVER
COMPARATOR CIRCUIT
DISPLAY DECODER
4-BIT LATCH
R MEMORY
L MEMORY
D/A CNVERTER
SA REGISTER
MEMORY CONTROL
OSC
CONTROL CIRCUIT
MUTE
VR1
POR
VR2
TIMING CONTROL
GND
VCC-1 VCC

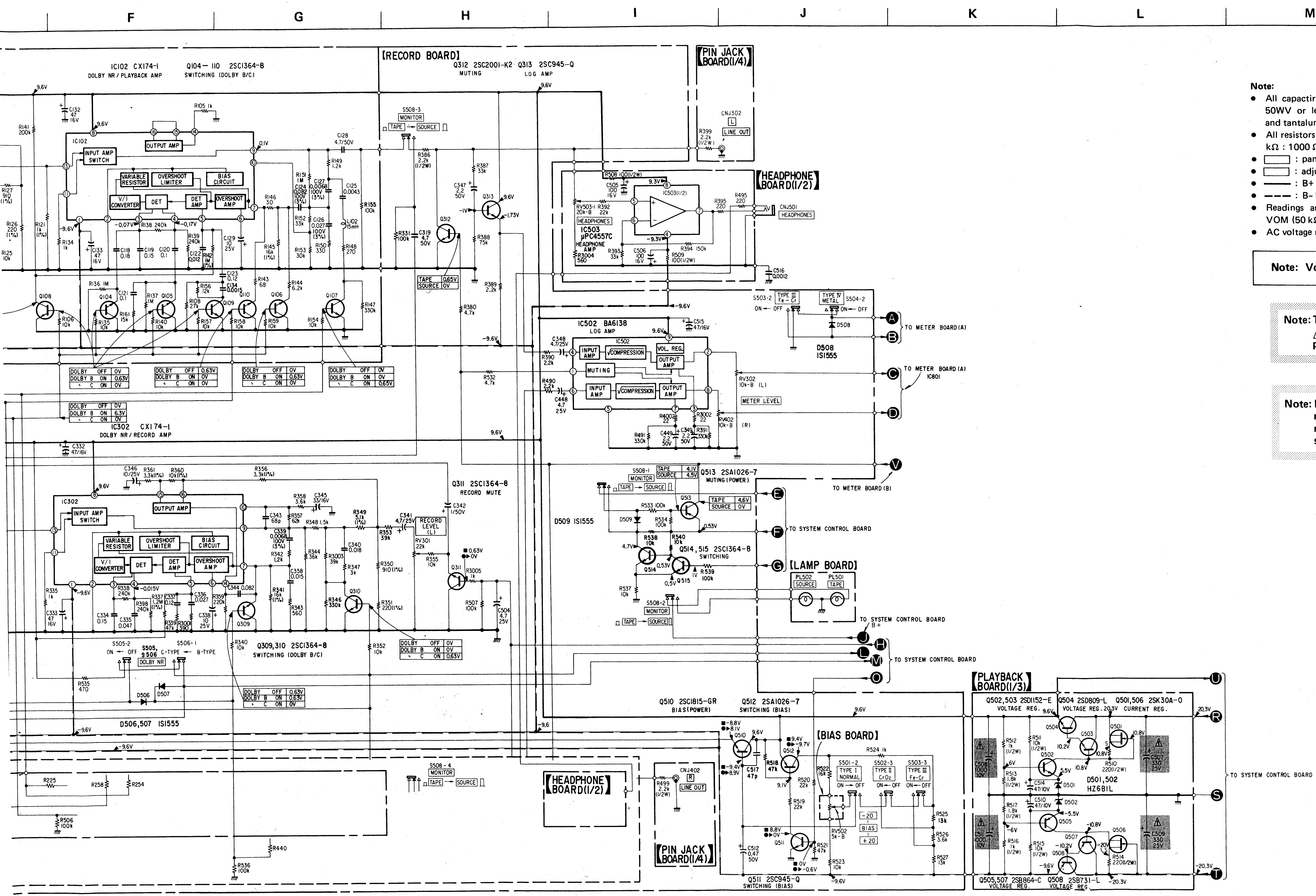
Note:

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ▨ : B + pattern
- ▨ : B – pattern
- ━━▶━ : signal path
- ━━━▶ : L-CH signal path
- ━·━▶ : R-CH signal path

4-2. SCHEMATIC DIAGRAM

– Amp Section –


A
B
C
D
E
F
G
H
1
2
3
4
5
[PLAYBACK BOARD(1/3)]
L-CH
IC501 NJM2043D-D
PLAYBACK EQ AMP
IC101 CX174-I
DOLBY NR/PLAYBACK AMP
Q102,103 2SC1364-8
SWITCHING (DOLBY B/C)
IC102 CX174-I
DOLBY NR/PLAYBACK AMP
Q104–110 2SC1364-8
SWITCHING (DOLBY B/C)
[RECORD BOARD]
Q312 2SC2001-K2
MUTING
Q313
L-CH HP RPS202-3602A
INPUT AMP SWITCH
OUTPUT AMP
VARIABLE RESISTOR
OVERSHOOT LIMITER
BIAS CIRCUIT
V/I CONVERTER
DET
DET AMP
OVERSHOOT AMP
PLAYBACK LEVEL (L)
TRAP ADJ (L)
Q101 2SC945-Q
SWITCHING (70μ/120μ)
S508-3 MONITOR
TAPE
SOURCE
TAPE 0.65V
SOURCE 0V
DOLBY OFF 0V
DOLBY B ON 0V
C ON 0.65V
DOLBY OFF 6.3V
DOLBY B ON 0V
C ON 0V
DOLBY OFF 0.63V
DOLBY B ON 0V
C ON 0V
TYPE I NORMAL
S501-1 ON – OFF
TYPE II CrO2
S502-1
TAPE
S503-1
TYPE III Fe-Cr
S504-1
TYPE IV METAL
IC301 CX174-I
DOLBY NR/RECORD AMP
S505-1 ON – OFF
S505,506 DOLBY NR
S506-2 C-TYPE – B-TYPE
DOLBY OFF 7.6V
DOLBY B ON 5.8V
C ON 0V
D504,505 1S1555
IC302 CX174-I
DOLBY NR/RECORD AMP
Q314 2SC1364-8
SWITCHING (REC EQ)
[VOLUME BOARD(1/2)]
[PIN JACK BOARD(1/4)]
CNJ301
REC LEVEL
RV501-1 20k-A
L
LINE IN
Q301 2SC1345-E
FILTER AMP
LPF301
S507-1 MPX FILTER ON – OFF
DOLBY OFF 6.3V
DOLBY B ON 0V
C ON 6.3V
Q311 2SC1364-8
RECORD MUTE
RECORD LEVEL (L)
RV301 22k
L-CH HR
TYPE I: 2.5VAC
TYPE II: 3.9VAC
TYPE III: 3.0VAC
TYPE IV: 6.7VAC
TYPE I: 12.4VAC
TYPE II: 19.8VAC
TYPE III: 14.9VAC
TYPE IV: 33.9VAC
HE
RECORD BIAS
C513
CP501
D503 1S1555
Q302–308 2SC1364-8
SWITCHING (DOLBY B/C)
Q309,310 2SC1364-8
SWITCHING (DOLBY B/C)
S505-2 ON – OFF
S505, S506 DOLBY NR
S506-1 C-TYPE – B-TYPE
D506,507 1S1555
R-CH HP
R-CH
[PLAYBACK BOARD(1/3)]
[PIN JACK BOARD(1/4)]
CNJ401
R401 33k
R
LINE IN
RV501-2 20k-A
[VOLUME BOARD(1/2)]
R-CH HR
S502-4 TYPE II CrO2
S503-4 TYPE III Fe-Cr
S504-4 TYPE IV METAL
S507-2 MPX FILTER ON – OFF
S508-4 MONITOR
TAPE
SOURCE
9.6V
-9.6V


F
G
H
I
J
K
L
M
IC102 CX174-1
DOLBY NR / PLAYBACK AMP
Q104 – 110 2SC1364-8
SWITCHING (DOLBY B/C)
【RECORD BOARD】
Q312 2SC2001-K2
MUTING
Q313 2SC945-Q
LOG AMP
【PIN JACK BOARD(1/4)】
CNJ302
LINE OUT
【HEADPHONE BOARD(1/2)】
IC503(1/2)
IC503 μPC4557C HEADPHONE AMP
CNJ501
HEADPHONES
INPUT AMP SWITCH
VARIABLE RESISTOR
OVERSHOOT LIMITER
BIAS CIRCUIT
V/I CONVERTER
DET
DET AMP
OVERSHOOT AMP
OUTPUT AMP
IC502 BA6138
LOG AMP
INPUT AMP
√COMPRESSION
VOL. REG.
OUTPUT AMP
MUTING
METER LEVEL
TO METER BOARD (A)
TO METER BOARD (A) IC801
TO METER BOARD (B)
S503-2 TYPE III Fe-Cr
S504-2 TYPE IV METAL
D508 1S1555
IC302 CX174-1
DOLBY NR / RECORD AMP
Q311 2SC1364-8
RECORD MUTE
RECORD LEVEL (L)
Q513 2SA1026-7
MUTING (POWER)
D509 1S1555
Q514, 515 2SC1364-8
SWITCHING
TO SYSTEM CONTROL BOARD
【LAMP BOARD】
PL502 SOURCE
PL501 TAPE
TO SYSTEM CONTROL BOARD B+
Q309, 310 2SC1364-8
SWITCHING (DOLBY B/C)
S505, S506 DOLBY NR
D506, 507 1S1555
Q510 2SC1815-GR
BIAS (POWER)
Q512 2SA1026-7
SWITCHING (BIAS)
【BIAS BOARD】
S501-2 TYPE I NORMAL
S502-3 TYPE II CrO2
S503-3 TYPE III Fe-Cr
Q511 2SC945-Q
SWITCHING (BIAS)
【PLAYBACK BOARD(1/3)】
Q502, 503 2SD1152-E
VOLTAGE REG.
Q504 2SD809-L
VOLTAGE REG.
Q501, 506 2SK30A-0
CURRENT REG.
D501, 502 HZ6BIL
Q505, 507 2SB864-C
VOLTAGE REG.
Q508 2SB731-L
VOLTAGE REG.
【HEADPHONE BOARD(1/2)】
CNJ402
LINE OUT
【PIN JACK BOARD(1/4)】
S508-4 MONITOR
TAPE → SOURCE

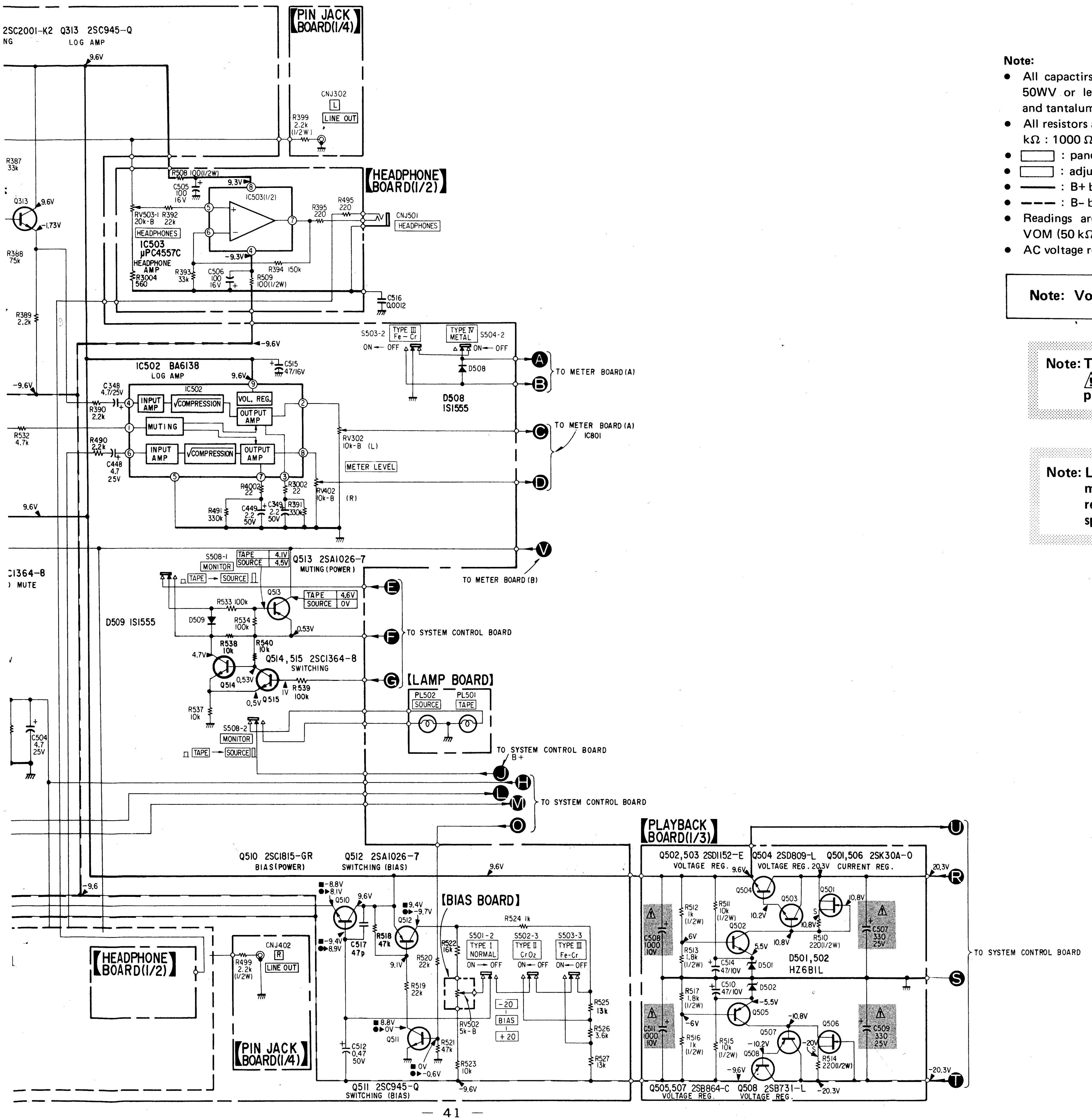
Note:

- All capactirs are in μF unless otherv 50WV or less are not indicated exce and tantalums.
- All resistors are in ohms, 1/4 W unless kΩ : 1000 Ω, MΩ : 1000 kΩ
- ☐ : panel designation.
- ☐ : adjustment for repair.
- ——— : B+ bus.
- - - - : B– bus.
- Readings are taken under no-signal VOM (50 kΩ/V).
- AC voltage readings in the bias oscillat

Note: Voltages are measured wi

Note: The components identifi ⚠ are critical for safe part number specified.

Note: Les composants identifi marque ⚠ sont critiques remplacer que par une spécifié.


PIN JACK BOARD(1/4)
2SC2001-K2 Q313 2SC945-Q
LOG AMP
9.6V
CNJ302
L
LINE OUT
R399 2.2k (1/2W)
R387 33k
Q313 9.6V
-1.73V
R388 75k
R389 2.2k
R508 100(1/2W)
C505 100 16V
9.3V
IC503(1/2)
RV503-1 20k-B
R392 22k
HEADPHONES
IC503 μPC4557C HEADPHONE AMP
R3004 560
R393 33k
C506 100 16V
-9.3V
R394 150k
R509 100(1/2W)
R395 220
R495 220
CNJ501
HEADPHONES
HEADPHONE BOARD(1/2)
C516 0.0012
-9.6V
S503-2
TYPE III Fe-Cr
ON ← OFF
TYPE IV METAL
S504-2
ON ← OFF
D508
D508 1S1555
TO METER BOARD(A)
IC502 BA6138
LOG AMP
C515 47/16V
C348 4.7/25V
R390 2.2k
INPUT AMP
√COMPRESSION
VOL. REG.
OUTPUT AMP
MUTING
R490 2.2k
C448 4.7 25V
R532 4.7k
-9.6V
RV302 10k-B (L)
METER LEVEL
TO METER BOARD (A) IC801
R4002 22
R3002 22
RV402 10k-B (R)
R491 330k
C449 2.2 50V
C349 2.2 50V
R391 330k
9.6V
S508-1
MONITOR
TAPE
SOURCE
4.1V
4.5V
Q513 2SA1026-7
MUTING (POWER)
TAPE 4.6V
SOURCE 0V
R533 100k
R534 100k
0.53V
D509
D509 1S1555
R538 10k
R540 10k
4.7V
Q514,515 2SC1364-8
SWITCHING
0.53V
R539 100k
0.5V
1V
R537 10k
S508-2
TO METER BOARD (B)
TO SYSTEM CONTROL BOARD
LAMP BOARD
PL502 SOURCE
PL501 TAPE
TO SYSTEM CONTROL BOARD B+
TO SYSTEM CONTROL BOARD
C1364-8 MUTE
C504 4.7 25V
PLAYBACK BOARD(1/3)
Q510 2SC1815-GR
BIAS(POWER)
Q512 2SA1026-7
SWITCHING (BIAS)
9.6V
-9.6
-8.8V
8.1V
9.6V
9.4V
-9.7V
-9.4V
8.9V
C517 47p
R518 47k
R520 22k
9.1V
R519 22k
BIAS BOARD
R524 1k
R522 16k
S501-2 TYPE I NORMAL
S502-3 TYPE II CrO2
S503-3 TYPE III Fe-Cr
ON ← OFF
-20
BIAS
+20
RV502 5k-B
R525 13k
R526 3.6k
R527 13k
8.8V
0V
Q511
R521 47k
0V
-0.6V
R523 10k
C512 0.47 50V
-9.6V
Q511 2SC945-Q
SWITCHING (BIAS)
HEADPHONE BOARD(1/2)
CNJ402
R
LINE OUT
R499 2.2k (1/2W)
PIN JACK BOARD(1/4)
Q502,503 2SD1152-E
VOLTAGE REG.
Q504 2SD809-L
VOLTAGE REG.
Q501,506 2SK30A-O
CURRENT REG.
9.6V
20.3V
R512 1k (1/2W)
R511 10k (1/2W)
10.2V
10.8V
10.8V
C508 1000 10V
6V
R513 1.8k (1/2W)
5.5V
10.8V
R510 220(1/2W)
C507 330 25V
C514 47/10V
D501
D501,502 HZ6B1L
C510 47/10V
D502
-5.5V
R517 1.8k (1/2W)
-6V
C511 1000 10V
-10.8V
R516 1k (1/2W)
R515 10k (1/2W)
-10.2V
-20V
R514 220(1/2W)
C509 330 25V
-9.6V
-20.3V
Q505,507 2SB864-C
VOLTAGE REG.
Q508 2SB731-L
VOLTAGE REG.
TO SYSTEM CONTROL BOARD
A B C D V E F G J H L M O U R S T

Note:

- All capactirs are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ☐ : panel designation.
- ▭ : adjustment for repair.
- —— : B+ bus.
- - - - : B- bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
- AC voltage readings in the bias oscillator with a VTVM.

Note: Voltages are measured with a VOM (50kΩ/V).

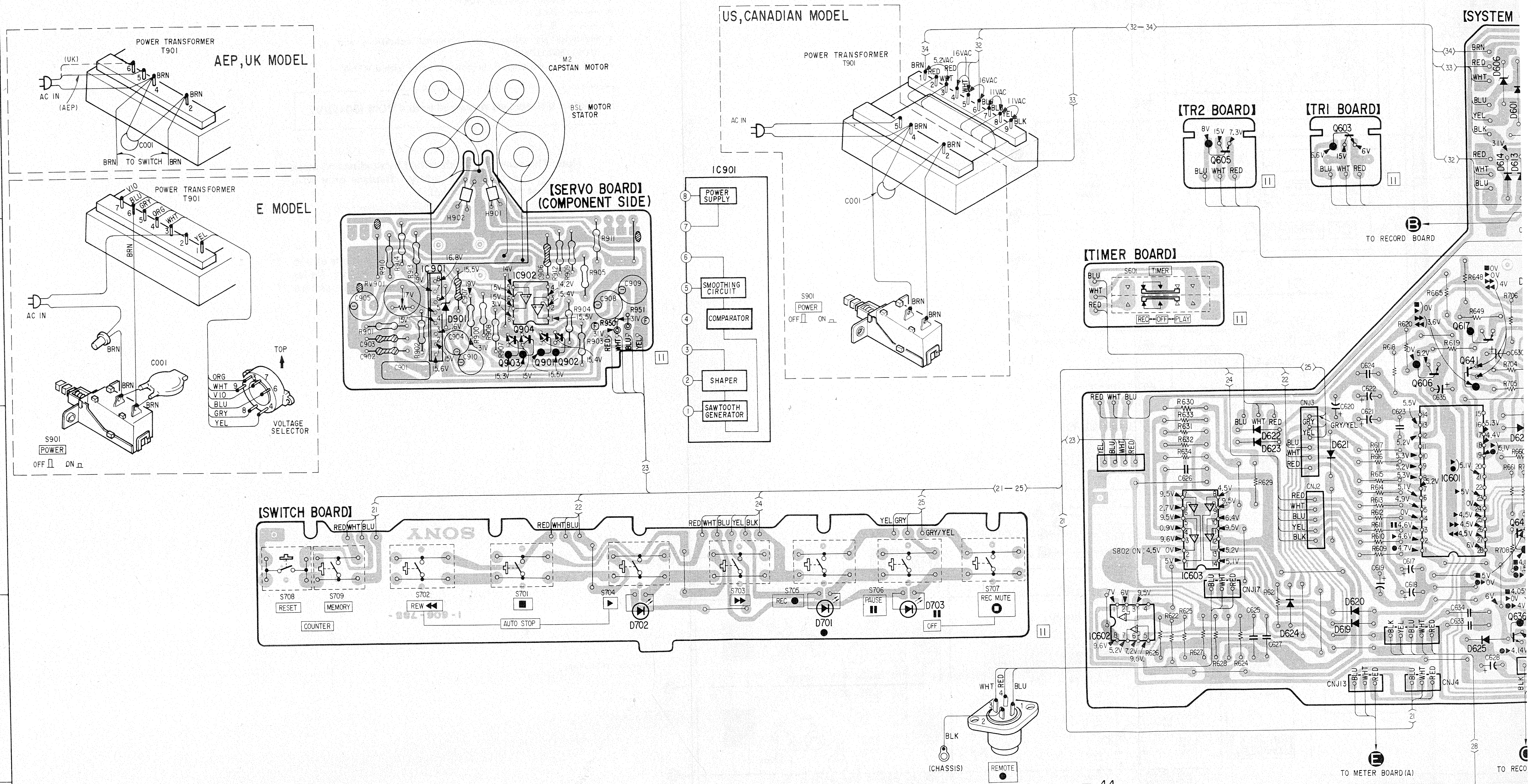
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

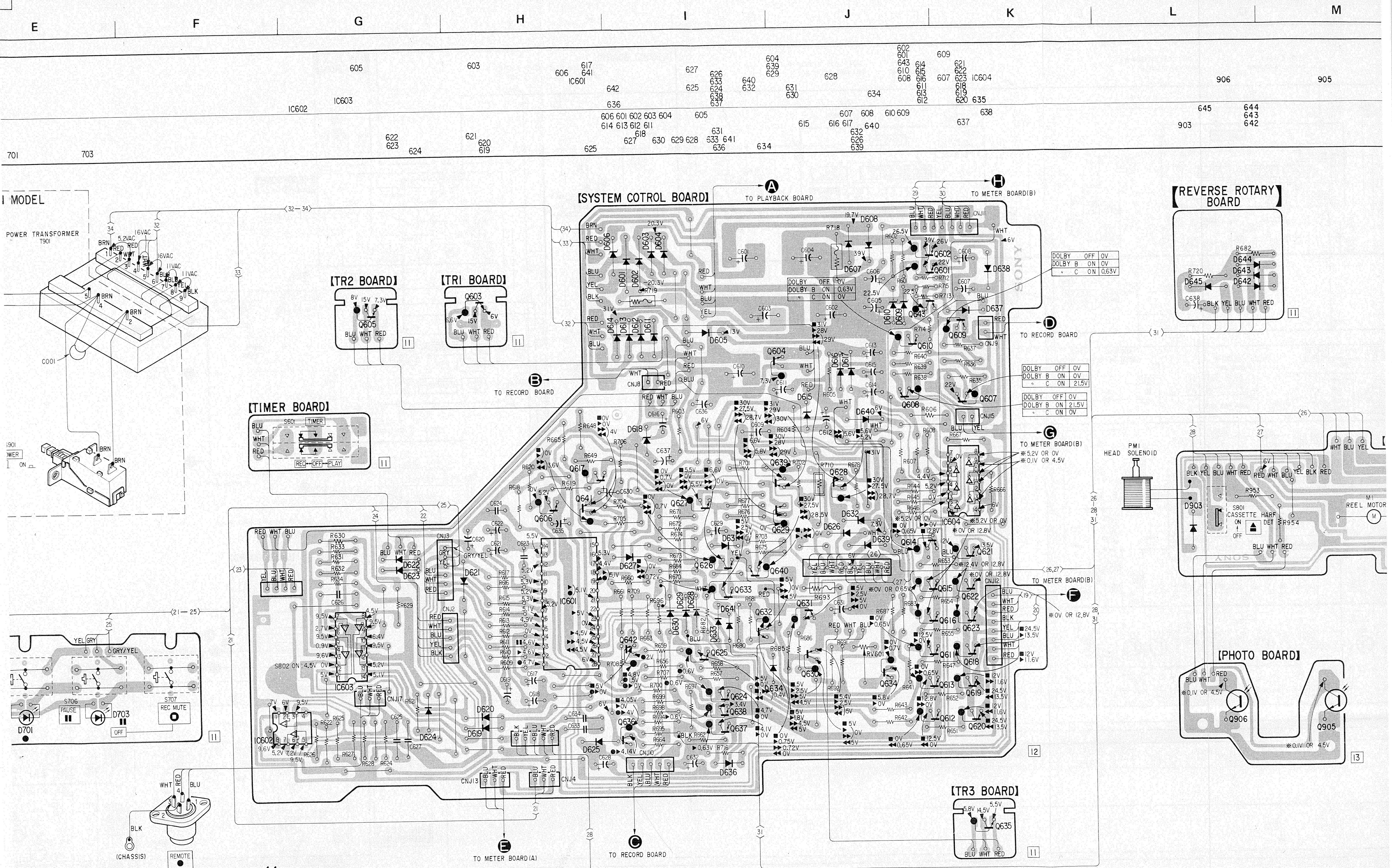
Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-3. MOUNTING DIAGRAM

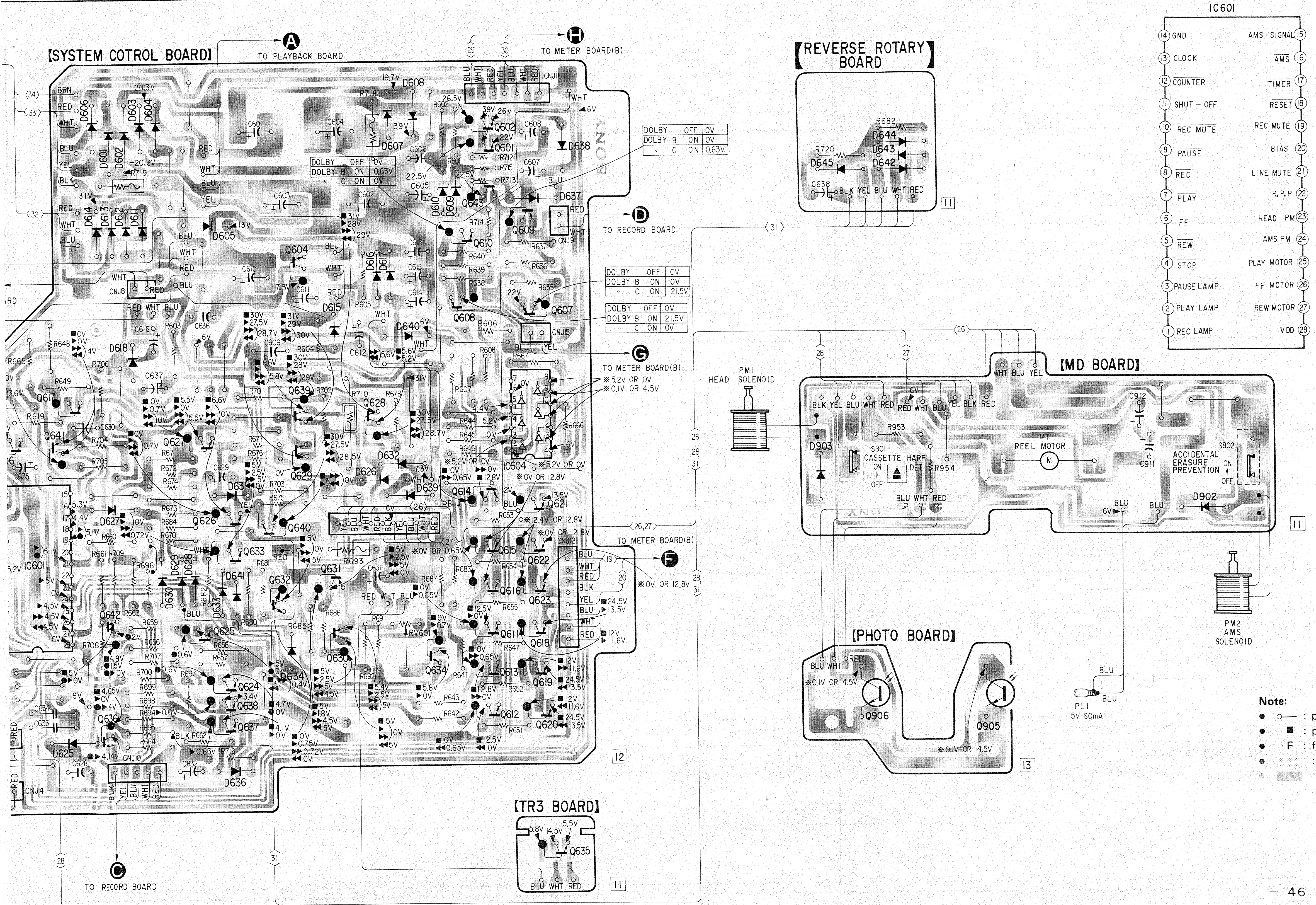
– System Control Section –

	A	B	C	D	E	F	G	H	
Q			903 904 901 902				605	603 606 617 641	642
IC			IC901 IC902				IC602 IC603	IC601	636 606 601 614 613
D			901	702	701 703		622 623 624	621 620 619 625	


A
B
C
D
E
F
G
H
1
2
3
4
5
POWER TRANSFORMER T901
AEP, UK MODEL
(UK)
(AEP)
AC IN
BRN
C001
TO SWITCH
E MODEL
V10
BLU
GRY
ORG
WHT
YEL
TOP
VOLTAGE SELECTOR
S901
POWER
OFF ON
M2 CAPSTAN MOTOR
BSL MOTOR STATOR
[SERVO BOARD] (COMPONENT SIDE)
H902
H901
IC901
IC902
D901
Q904
Q903
Q901
Q902
RV901
US, CANADIAN MODEL
5.2VAC
16VAC
11VAC
IC901
POWER SUPPLY
SMOOTHING CIRCUIT
COMPARATOR
SHAPER
SAWTOOTH GENERATOR
[TR2 BOARD]
Q605
[TR1 BOARD]
Q603
TO RECORD BOARD
[TIMER BOARD]
S601
TIMER
REC OFF PLAY
[SYSTEM
[SWITCH BOARD]
SONY
S708 RESET
S709 MEMORY
COUNTER
S702 REW
S701
AUTO STOP
S704
D702
S703
S705 REC
D701
S706 PAUSE
D703
S707 REC MUTE
OFF
IC603
IC602
IC601
Q617
Q641
Q606
D620
D619
D621
D622
D623
D624
D625
CNJ2
CNJ3
CNJ4
CNJ13
CNJ17
S802 ON
(CHASSIS)
REMOTE
TO METER BOARD (A)
TO RECO


E
F
G
H
I
J
K
L
M
MODEL
POWER TRANSFORMER T901
5.2VAC
16VAC
11VAC
BRN
RED
WHT
YEL
BLK
C001
S901 POWER ON
【SYSTEM COTROL BOARD】
TO PLAYBACK BOARD
TO METER BOARD(B)
TO RECORD BOARD
TO METER BOARD(A)
【TR2 BOARD】
Q605
【TR1 BOARD】
Q603
【TIMER BOARD】
S601 TIMER
REC OFF PLAY
【REVERSE ROTARY BOARD】
D645
D644
D643
D642
【TR3 BOARD】
Q635
【PHOTO BOARD】
Q906
Q905
HEAD
PM1 SOLENOID
S801 CASSETTE HARF DET
M1 REEL MOTOR
D903
IC601
IC602
IC603
IC604
S706 PAUSE
S707 REC MUTE
D701
D703
S802
REMOTE
(CHASSIS)
DOLBY OFF 0V
DOLBY B ON 0V
C ON 0.63V
DOLBY OFF 0V
DOLBY B ON 0.63V
C ON 0V
DOLBY OFF 0V
DOLBY B ON 0V
C ON 21.5V
DOLBY OFF 0V
DOLBY B ON 21.5V
C ON 0V
※5.2V OR 0V
※0.1V OR 4.5V
※0V OR 12.8V
SONY

		I	J	K	L	M	N	
	606 617 641 IC601	642 636 627 625 626 633 624 638 637 640 632	604 639 629 631 630 628 634 602 601 643 610 608 614 615 616 611 613 612	609 607 621 622 623 618 619 620 IC604 635	906	905		Q IC
1	625	606 601 602 603 604 614 613 612 611 618 627 630 629 628 605 631 633 641 636 634	615 607 608 616 617 632 626 639 640 610 609	638 637	645 903 644 643 642		902	D

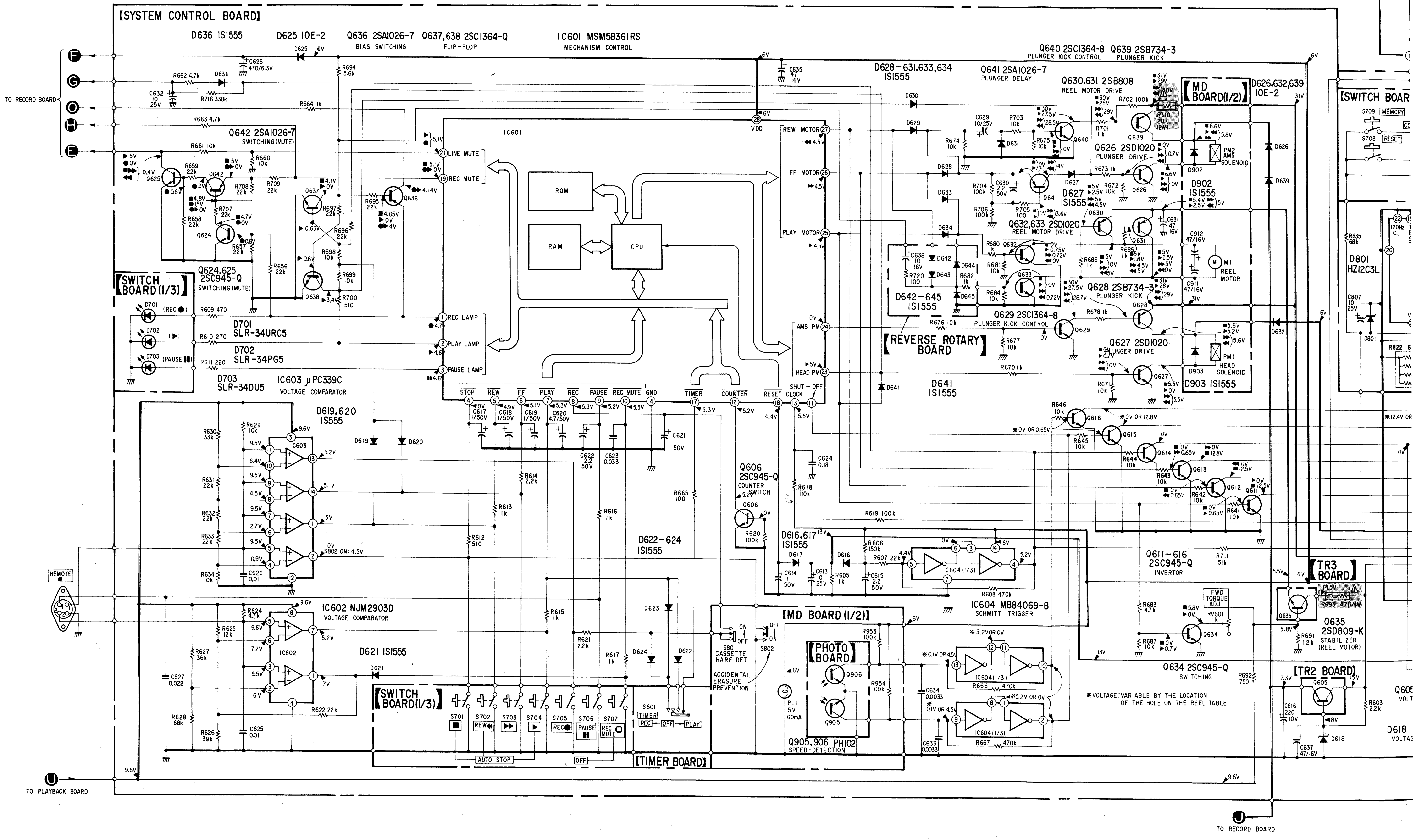

[SYSTEM COTROL BOARD]
TO PLAYBACK BOARD
TO METER BOARD(B)
TO RECORD BOARD
TO METER BOARD(B)
TO METER BOARD(B)
TO RECORD BOARD
DOLBY OFF 0V
DOLBY B ON 0V
C ON 0.63V
[REVERSE ROTARY BOARD]
[MD BOARD]
HEAD PM1 SOLENOID
REEL MOTOR M1
S801 CASSETTE HARF DET
ACCIDENTAL ERASURE PREVENTION S802
PM2 AMS SOLENOID
[PHOTO BOARD]
Q906
Q905
PL1 5V 60mA
[TR3 BOARD]
Q635
IC601
14 GND
13 CLOCK
12 COUNTER
11 SHUT-OFF
10 REC MUTE
9 PAUSE
8 REC
7 PLAY
6 FF
5 REW
4 STOP
3 PAUSE LAMP
2 PLAY LAMP
1 REC LAMP
15 AMS SIGNAL
16 AMS
17 TIMER
18 RESET
19 REC MUTE
20 BIAS
21 LINE MUTE
22 R.P.P
23 HEAD PM
24 AMS PM
25 PLAY MOTOR
26 FF MOTOR
27 REW MOTOR
28 VDD

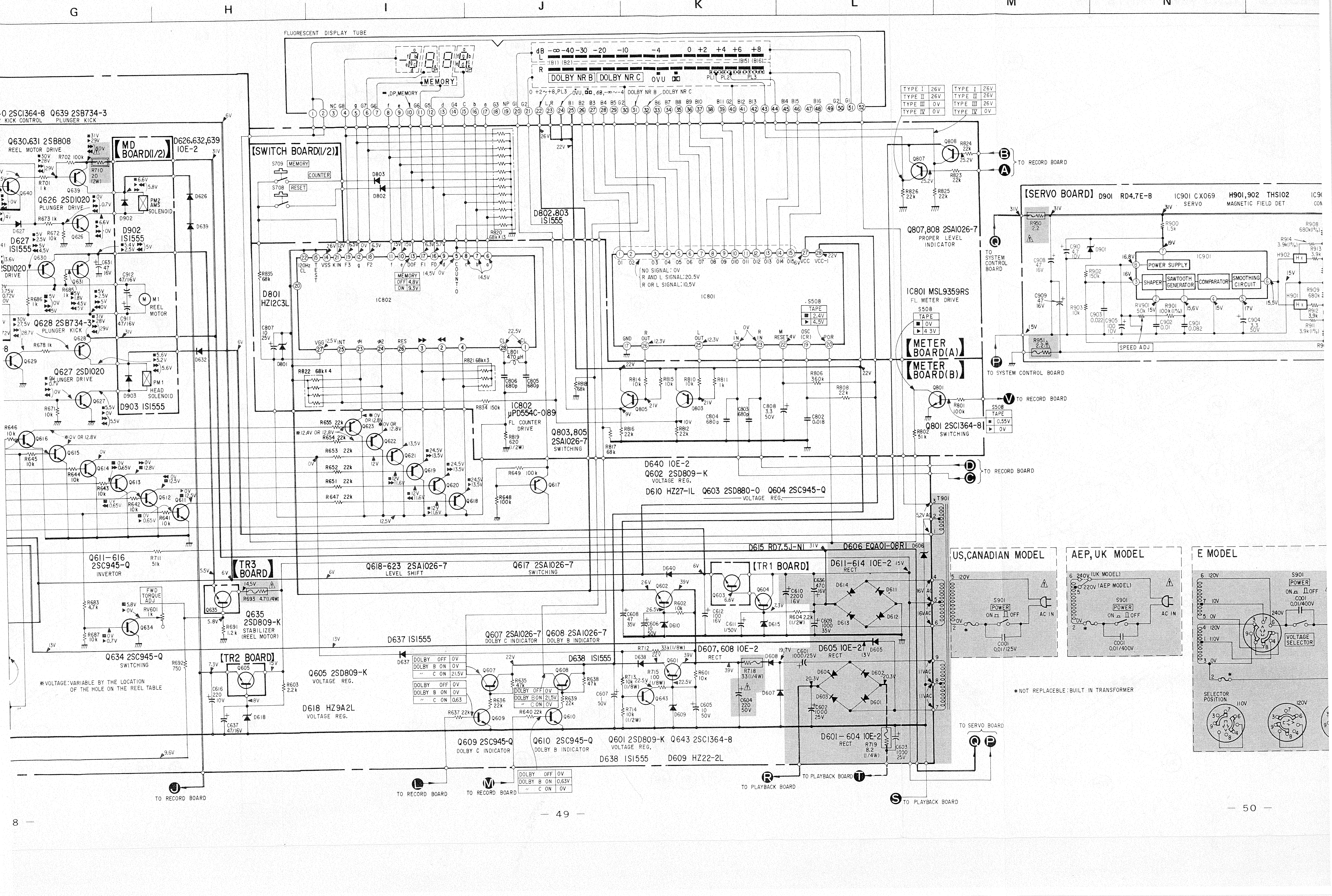
Note:

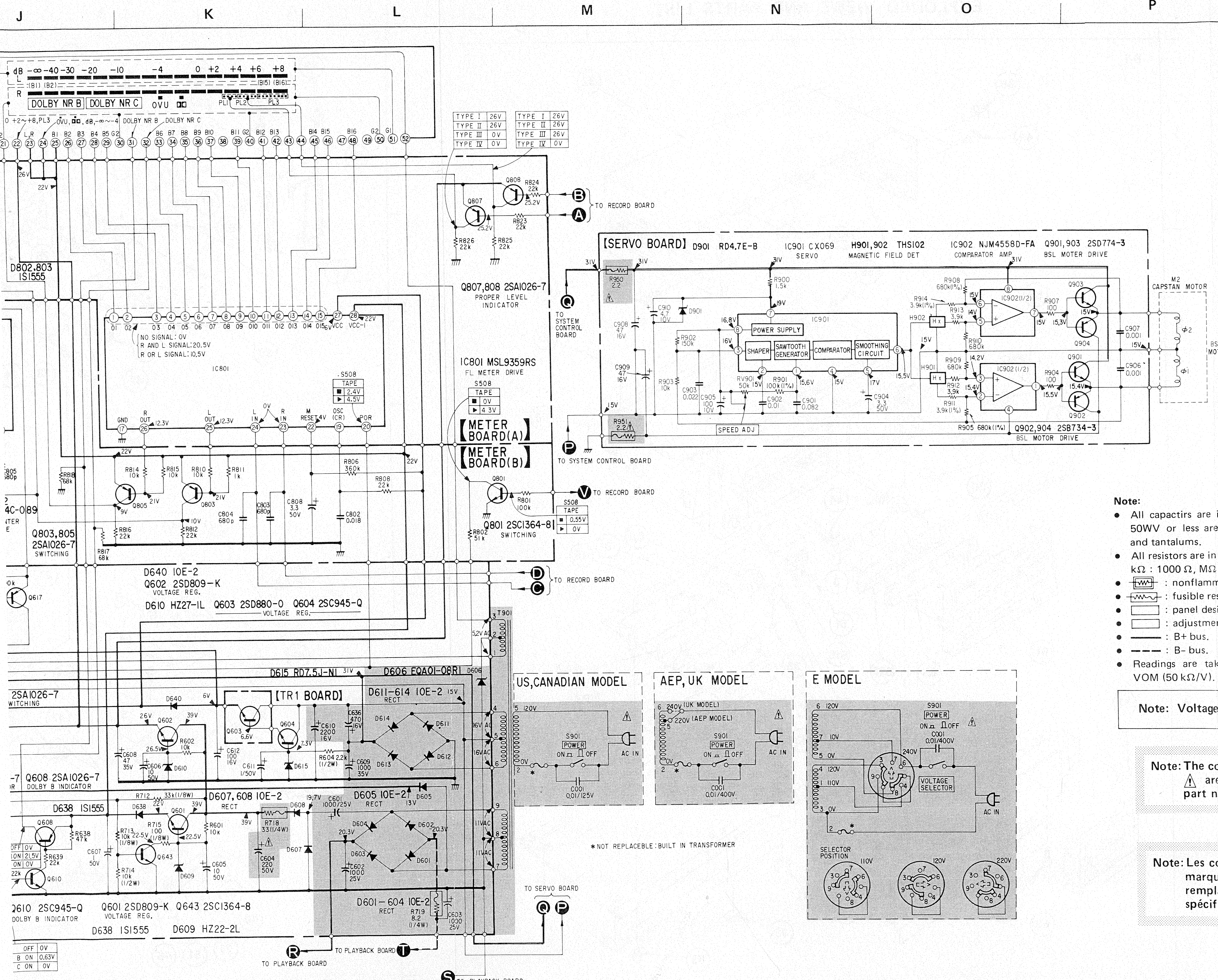
- ○— : parts extracted from the component side.
- ■ : part mounted on the conductor side.
- F : fusible resistor.
- ▨ : B + pattern
- ▨ : B − pattern

4-4. SCHEMATIC DIAGRAM

— System Control Section —


[SYSTEM CONTROL BOARD]
TO RECORD BOARD
TO PLAYBACK BOARD
TO RECORD BOARD
D636 IS1555
D625 10E-2
Q636 2SA1026-7
BIAS SWITCHING
Q637,638 2SC1364-Q
FLIP-FLOP
IC601 MSM58361RS
MECHANISM CONTROL
Q640 2SC1364-8
PLUNGER KICK CONTROL
Q639 2SB734-3
PLUNGER KICK
D628-631,633,634
IS1555
Q641 2SA1026-7
PLUNGER DELAY
Q630,631 2SB808
REEL MOTOR DRIVE
[MD BOARD(1/2)]
D626,632,639
10E-2
Q642 2SA1026-7
SWITCHING(MUTE)
Q624,625
2SC945-Q
SWITCHING(MUTE)
[SWITCH BOARD(1/3)]
D701
SLR-34URC5
D702
SLR-34PG5
D703
SLR-34DU5
IC603 μPC339C
VOLTAGE COMPARATOR
D619,620
IS555
IC601
ROM
RAM
CPU
LINE MUTE
REC MUTE
REC LAMP
PLAY LAMP
PAUSE LAMP
VDD
REW MOTOR
FF MOTOR
PLAY MOTOR
AMS PM
HEAD PM
STOP
REW
FF
PLAY
REC
PAUSE
REC MUTE
GND
TIMER
COUNTER
RESET
CLOCK
SHUT-OFF
Q626 2SD1020
PLUNGER DRIVE
PM2
AMS
SOLENOID
D902
IS1555
Q632,633 2SD1020
REEL MOTOR DRIVE
D627
IS1555
M1
REEL
MOTOR
D642-645
IS1555
[REVERSE ROTARY BOARD]
Q628 2SB734-3
PLUNGER KICK
Q629 2SC1364-8
PLUNGER KICK CONTROL
Q627 2SD1020
PLUNGER DRIVE
PM1
HEAD
SOLENOID
D903 IS1555
D641
IS1555
Q606
2SC945-Q
COUNTER SWITCH
D616,617
IS1555
D622-624
IS1555
Q611-616
2SC945-Q
INVERTOR
IC604 MB84069-B
SCHMITT TRIGGER
REMOTE
IC602 NJM2903D
VOLTAGE COMPARATOR
D621 IS1555
[MD BOARD (1/2)]
[PHOTO BOARD]
Q905,906 PH102
SPEED-DETECTION
PL1
5V
60mA
S801
CASSETTE
HARF DET
S802
ACCIDENTAL
ERASURE
PREVENTION
[SWITCH BOARD(1/3)]
S701
S702
REW
S703
S704
S705
REC
S706
PAUSE
S707
REC MUTE
AUTO STOP
OFF
S601
TIMER
REC
OFF
PLAY
[TIMER BOARD]
FWD
TORQUE
ADJ
RV601
Q634 2SC945-Q
SWITCHING
[TR3 BOARD]
R693 4.7(1/4W)
Q635
2SD809-K
STABILIZER
(REEL MOTOR)
[TR2 BOARD]
Q605
D618
*VOLTAGE: VARIABLE BY THE LOCATION
OF THE HOLE ON THE REEL TABLE
[SWITCH BOARD]
S709 MEMORY
S708 RESET
D801
HZ12C3L
FLUORESCE


G
H
I
J
K
L
M
N
FLUORESCENT DISPLAY TUBE
dB -∞ -40 -30 -20 -10 -4 0 +2 +4 +6 +8
DOLBY NR B
DOLBY NR C
0VU
MEMORY
Q639 2SB734-3 PLUNGER KICK
Q630,631 2SB808 REEL MOTOR DRIVE
[MD BOARD(1/2)]
D626,632,639 10E-2
Q626 2SD1020 PLUNGER DRIVE
PM2 AMS SOLENOID
D902 1S1555
D627 1S1555
Q628 2SB734-3 PLUNGER KICK
M1 REEL MOTOR
Q627 2SD1020 PLUNGER DRIVE
PM1 HEAD SOLENOID
D903 1S1555
[SWITCH BOARD(1/2)]
S709 MEMORY
S708 RESET
COUNTER
D802.803 1S1555
D801 HZ12C3L
IC802 µPD554C-089 FL COUNTER DRIVE
Q803,805 2SA1026-7 SWITCHING
IC801 MSL9359RS FL METER DRIVE
NO SIGNAL: 0V
R AND L SIGNAL: 20.5V
R OR L SIGNAL: 10.5V
[METER BOARD(A)]
[METER BOARD(B)]
Q807,808 2SA1026-7 PROPER LEVEL INDICATOR
Q801 2SC1364-8 SWITCHING
TO RECORD BOARD
TO SYSTEM CONTROL BOARD
[SERVO BOARD]
D901 RD4.7E-B
IC901 CX069 SERVO
H901,902 THS102 MAGNETIC FIELD DET
POWER SUPPLY
SHAPER
SAWTOOTH GENERATOR
COMPARATOR
SMOOTHING CIRCUIT
SPEED ADJ
Q611-616 2SC945-Q INVERTOR
Q618-623 2SA1026-7 LEVEL SHIFT
Q617 2SA1026-7 SWITCHING
D640 10E-2
Q602 2SD809-K VOLTAGE REG.
D610 HZ27-1L
Q603 2SD880-0 VOLTAGE REG.
Q604 2SC945-Q VOLTAGE REG.
[TR3 BOARD]
Q635 2SD809-K STABILIZER (REEL MOTOR)
FWD TORQUE ADJ
Q634 2SC945-Q SWITCHING
*VOLTAGE: VARIABLE BY THE LOCATION OF THE HOLE ON THE REEL TABLE
[TR2 BOARD]
Q605 2SD809-K VOLTAGE REG.
D618 HZ9A2L VOLTAGE REG.
D637 1S1555
Q607 2SA1026-7 DOLBY C INDICATOR
Q608 2SA1026-7 DOLBY B INDICATOR
D638 1S1555
Q609 2SC945-Q DOLBY C INDICATOR
Q610 2SC945-Q DOLBY B INDICATOR
Q601 2SD809-K VOLTAGE REG.
Q643 2SC1364-8
D609 HZ22-2L
D615 RD7.5J-N1
D606 EQA01-08R1
[TR1 BOARD]
D611-614 10E-2 RECT
D607,608 10E-2 RECT
D605 10E-2 RECT
D601-604 10E-2 RECT
T901
US, CANADIAN MODEL
AEP, UK MODEL
E MODEL
S901 POWER
AC IN
VOLTAGE SELECTOR
SELECTOR POSITION
*NOT REPLACEABLE: BUILT IN TRANSFORMER
TO SERVO BOARD
TO PLAYBACK BOARD


J
K
L
M
N
O
P
Q
R
1
2
3
4
5
dB -∞ -40 -30 -20 -10 -4 0 +2 +4 +6 +8
DOLBY NR B
DOLBY NR C
0VU
TO RECORD BOARD
[SERVO BOARD]
D901 RD4.7E-B
IC901 CX069 SERVO
H901,902 THS102 MAGNETIC FIELD DET
IC902 NJM4558D-FA COMPARATOR AMP
Q901,903 2SD774-3 BSL MOTER DRIVE
Q902,904 2SB734-3 BSL MOTOR DRIVE
POWER SUPPLY
SHAPER
SAWTOOTH GENERATOR
COMPARATOR
SMOOTHING CIRCUIT
SPEED ADJ
M2 CAPSTAN MOTOR
BSL MOTOR
TO SYSTEM CONTROL BOARD
Q807,808 2SA1026-7 PROPER LEVEL INDICATOR
IC801 MSL9359RS FL METER DRIVE
[METER BOARD(A)]
[METER BOARD(B)]
Q801 2SC1364-8 SWITCHING
NO SIGNAL: 0V
R AND L SIGNAL: 20.5V
R OR L SIGNAL: 10.5V
D802,803 1S1555
Q803,805 2SA1026-7 SWITCHING
D640 10E-2
Q602 2SD809-K VOLTAGE REG.
D610 HZ27-1L
Q603 2SD880-0
Q604 2SC945-Q VOLTAGE REG.
D615 RD7.5J-N1
D606 EQA01-08R1
[TR1 BOARD]
D611-614 10E-2 RECT
Q608 2SA1026-7 DOLBY B INDICATOR
D638 1S1555
D607,608 10E-2 RECT
D605 10E-2 RECT
D601-604 10E-2 RECT
Q610 2SC945-Q DOLBY B INDICATOR
Q601 2SD809-K VOLTAGE REG.
Q643 2SC1364-8
D638 1S1555
D609 HZ22-2L
T901
US,CANADIAN MODEL
AEP,UK MODEL
E MODEL
S901 POWER
AC IN
VOLTAGE SELECTOR
SELECTOR POSITION
110V
120V
220V
240V
* NOT REPLACEBLE: BUILT IN TRANSFORMER
TO SERVO BOARD
TO PLAYBACK BOARD

Note:

- All capactirs are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ☐ : panel designation.
- ☐ : adjustment for repair.
- —— : B+ bus.
- – – – : B- bus.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).

Note: Voltages are measured with a VOM (50kΩ/V).

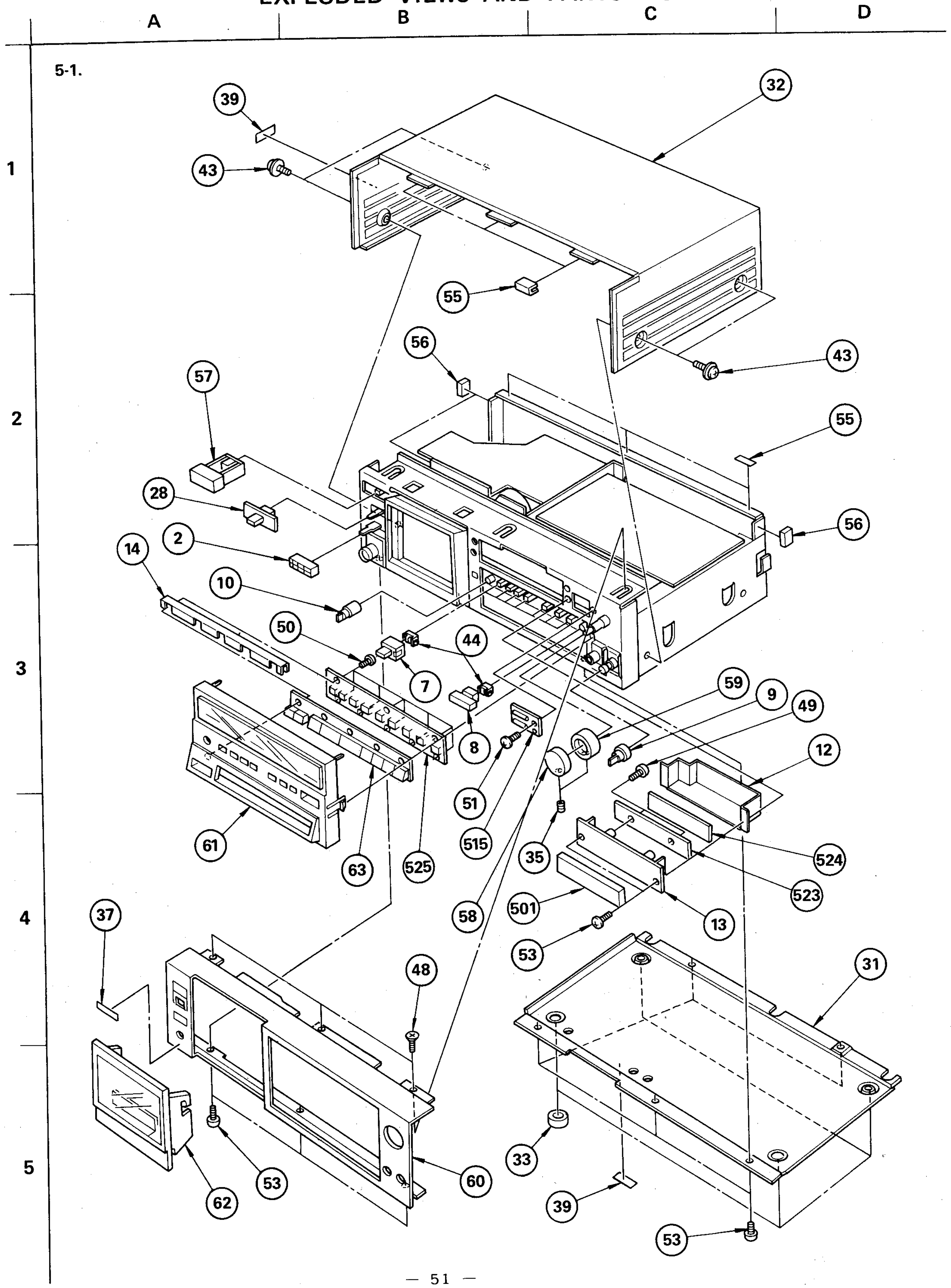
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

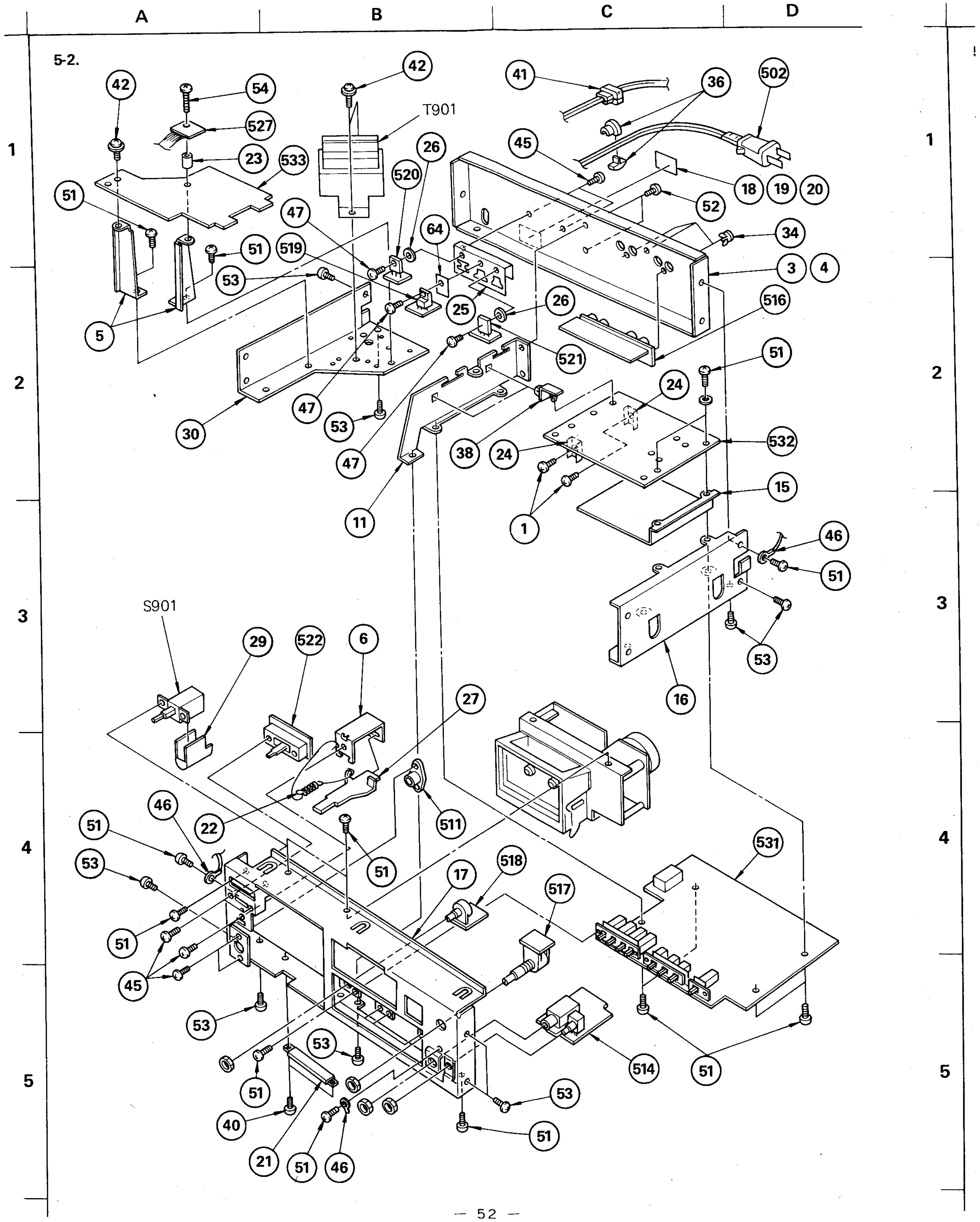
SECTION 5

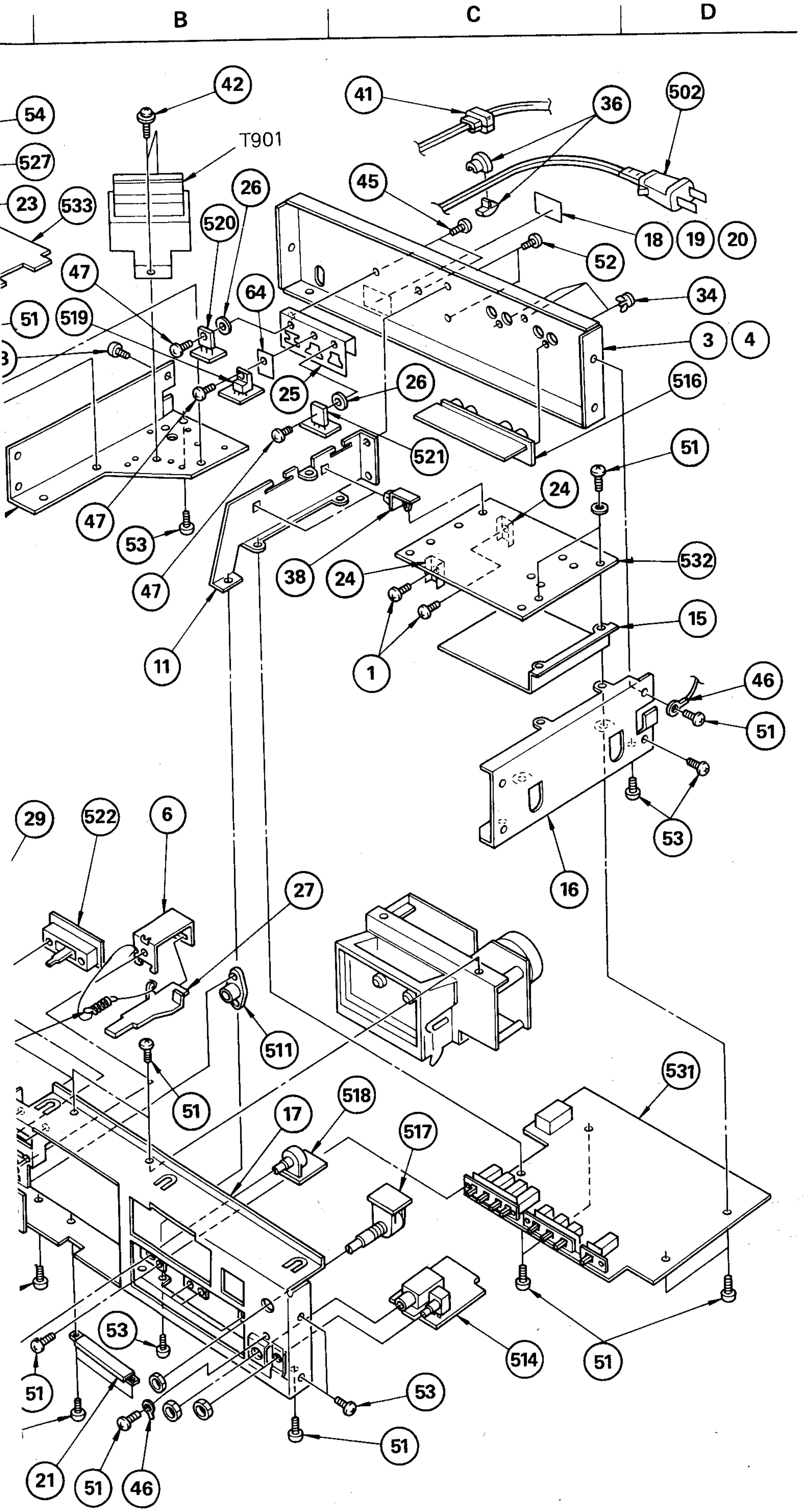
EXPLODED VIEWS AND PARTS LIST

5-1.

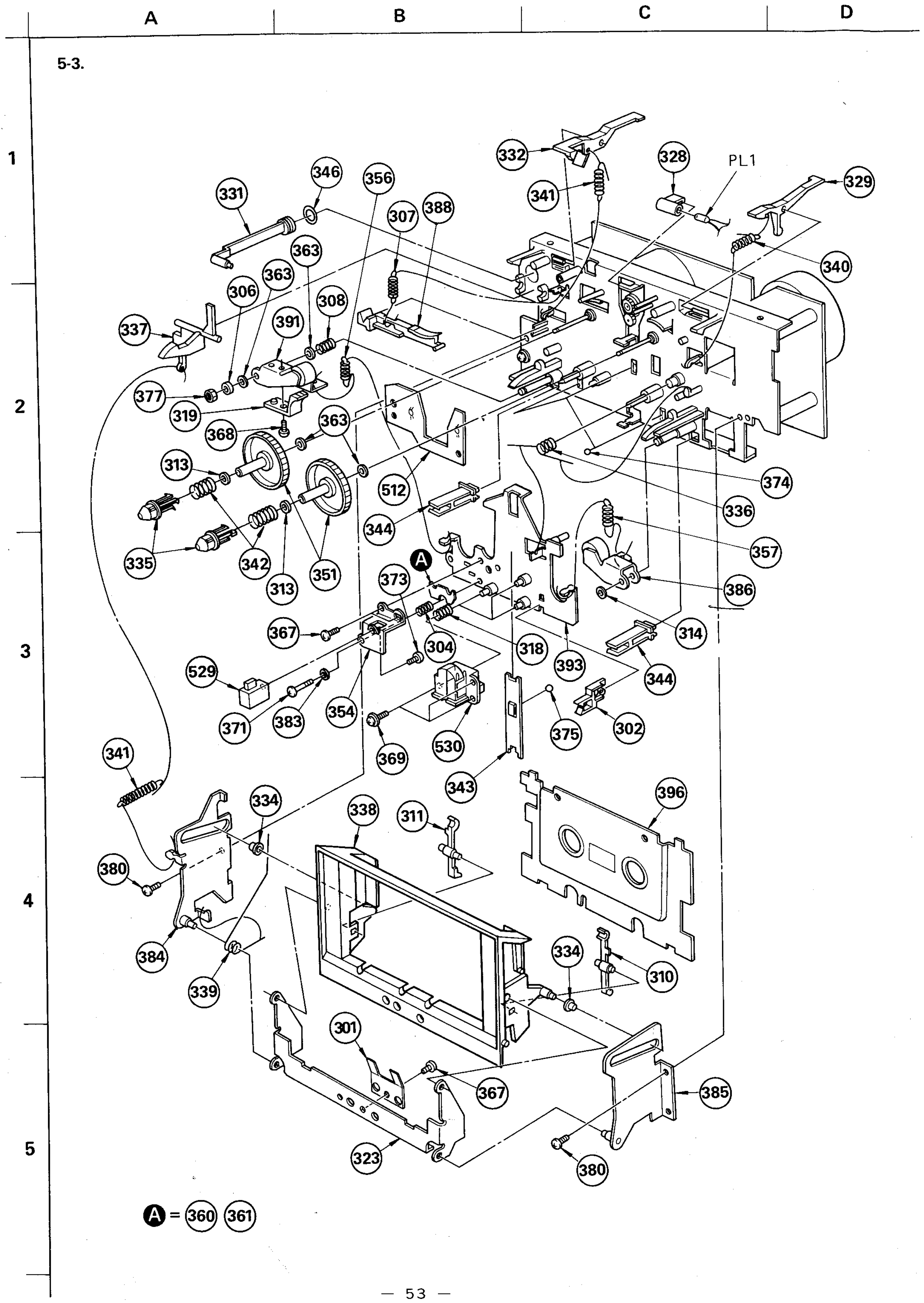

A
B
C
D
1
2
3
4
5
39
32
43
55
56
43
57
55
28
56
14
2
10
50
44
7
59
9
49
8
12
51
515
35
61
63
525
524
523
58
501
13
37
48
53
31
33
53
60
62
39
53

5-2.


A
B
C
D
1
2
3
4
5
42
54
42
41
36
502
527
T901
23
533
26
45
18
19
20
51
520
52
47
64
34
51
519
3
4
53
25
26
516
5
521
51
30
47
53
24
532
47
38
24
11
15
1
46
51
16
53
S901
29
522
6
27
22
511
46
51
53
51
17
518
517
531
51
45
53
53
51
40
21
51
46
53
514
51
51

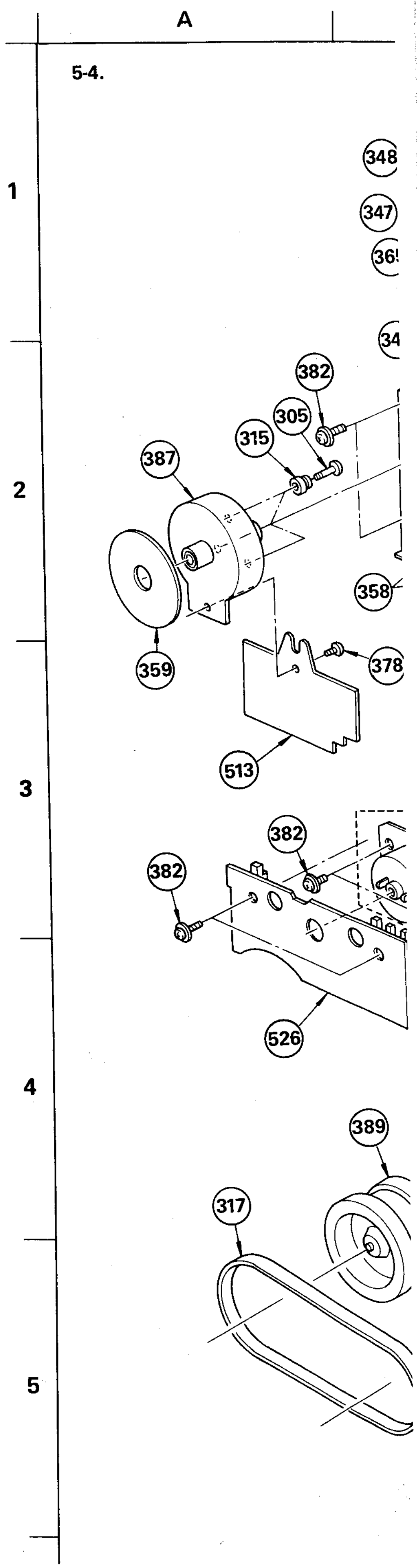

B
C
D
54
527
23
533
51
519
3
47
42
T901
26
520
64
25
41
36
502
45
18
19
20
52
34
3
4
26
516
521
51
24
532
47
53
47
38
24
15
11
1
46
51
53
16
29
522
6
27
511
51
17
518
517
531
53
51
21
51
46
53
51
514
51

5-3.

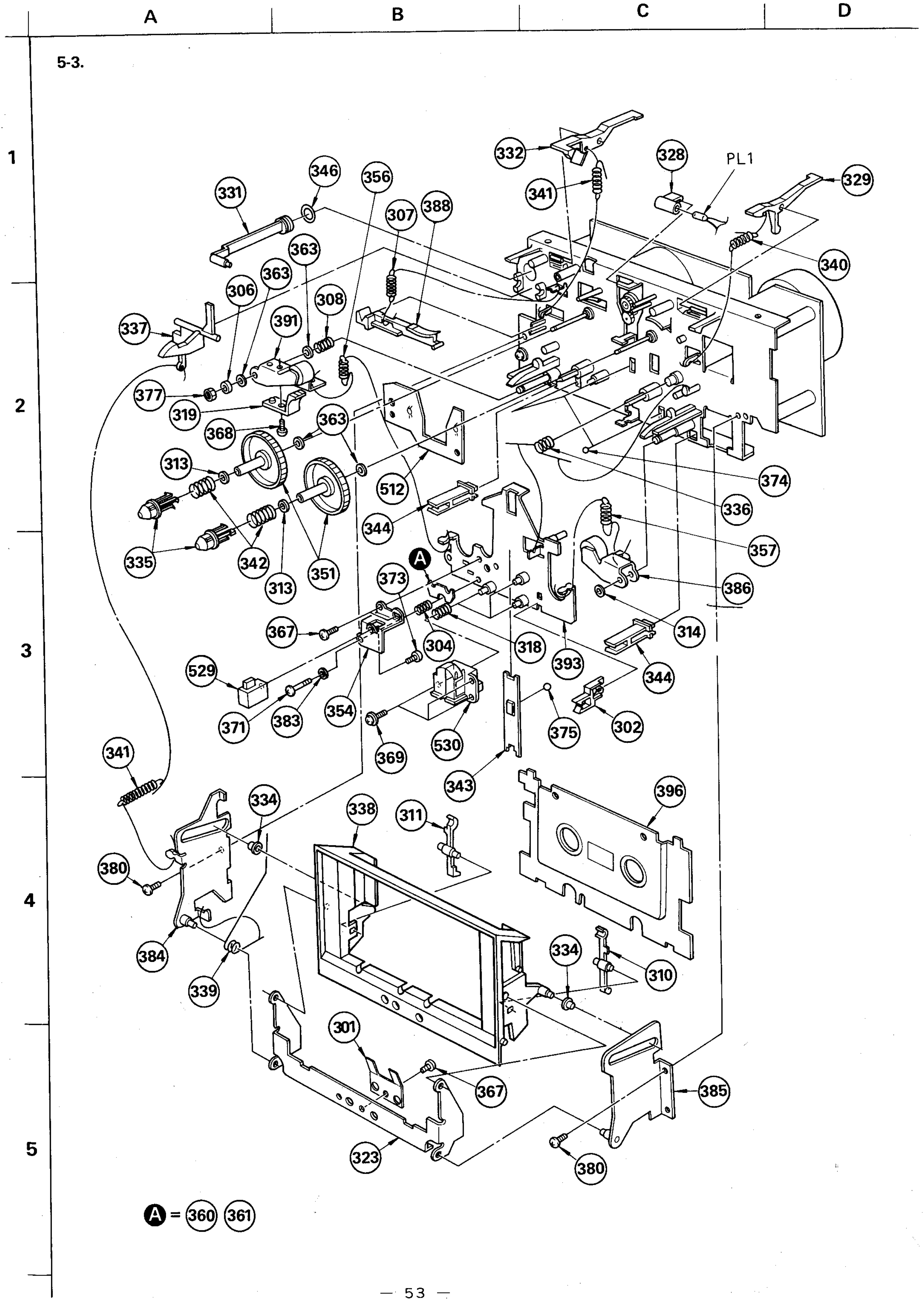

A
B
C
D
1
2
3
4
5
332
328
PL1
329
346
356
331
307
388
341
340
363
363
306
308
391
337
377
319
368
363
313
512
374
336
344
357
335
342
313
351
A
373
386
367
304
318
314
393
344
529
371
383
354
369
530
375
302
341
343
396
334
338
311
380
384
339
334
310
301
367
385
323
380

A = (360) (361)

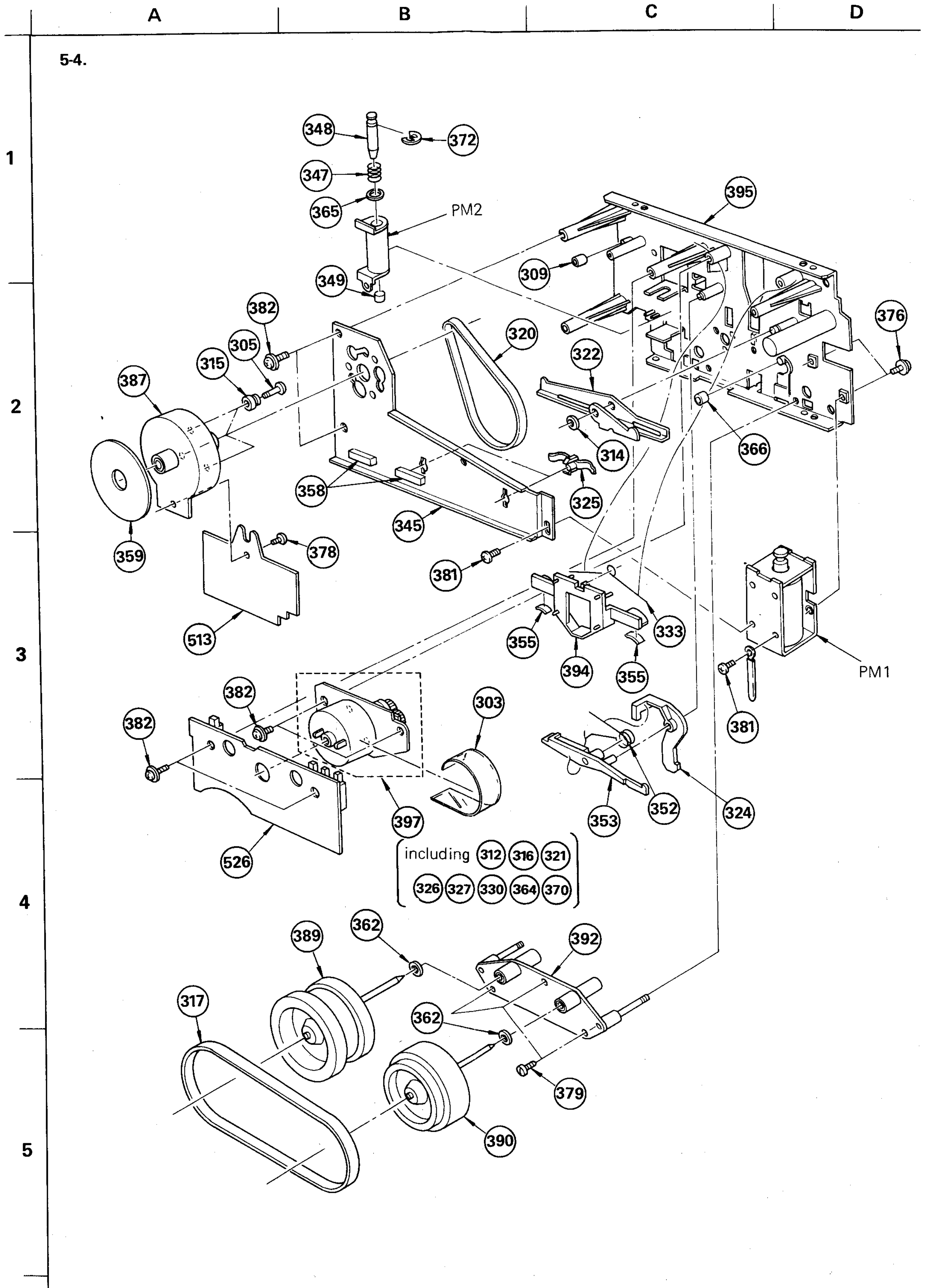
5-4.


A
1
2
3
4
5
348
347
382
305
315
387
358
359
378
513
382
382
526
389
317

5-3.


A
B
C
D
PL1
A
A = 360 361

5-4.


A
B
C
D
PM2
PM1
including 312 316 321 326 327 330 364 370

GENERAL SECTION

No.	Part No.	Description
1	2-259-121-00	SCREW, TR
2	3-304-419-00	BUTTON, EJECT
3	♦;3-304-907-11	(US,Canadian)...PLATE, JACK
4	♦;3-304-908-01	(UK,AEP)........PLATE, JACK
5	♦;3-304-910-00	BRACKET, PC BOARD
6	♦;3-304-911-00	SLIDER, EJECT
7	3-304-926-00	KNOB (A), PUSH
8	3-304-927-00	KNOB (B), PUSH
9	3-304-929-00	KNOB, HEADPHONE
10	3-304-930-00	KNOB, BIAS
11	♦;3-304-934-00	PLATE, RELAY
12	♦;3-304-935-00	CASE, SHIELD
13	♦;3-304-938-00	HOLDER, FL TUBE
14	♦;3-304-939-00	BRACKET, CONTROL BUTTON
15	♦;3-304-942-00	PLATE, SHIELD, PLAYBACK PCB
16	♦;3-304-944-00	PLATE, SIDE, RIGHT
17	♦;3-304-949-05	CHASSIS, AMPLIFIER
18	3-304-958-00	LABEL, MODEL NUMBER (USA,CND)
19	3-304-959-00	LABEL, MODEL NUMBER (AEP1)
20	3-304-960-00	LABEL, MODEL NUMBER (UK)
21	3-304-962-00	COVER, MD
22	3-534-238-XX	SPRING, TENSION
23	♦;3-565-796-00	SPACER, PC BOARD
24	♦;3-567-242-00	HEAT SINK
25	♦;3-572-305-00	HEAT SINK
26	3-572-365-11	SHEET, INSULATING (A)
27	♦;3-575-502-00	BRACKET, EJECT
28	3-575-515-00	KNOB, SLIDE SWITCH
29	3-575-524-00	COVER, POWER SWITCH
30	♦;3-575-537-00	PLATE, SIDE, LEFT
31	♦;3-575-538-12	PLATE, BOTTOM
32	3-575-539-00	CASE
33	3-576-731-00	FELT (H)
34	3-646-090-11	RIVET, NYLON
35	3-701-506-01	SET SCREW, DOUBLE POINT 3X4
36	3-701-682-00	(US,Canadian)...STOPPER, CORD
37	♦;3-701-690-00	(UK)...LABEL (MADE IN JAPAN)
38	♦;3-701-832-00	HINGE, CIRCUIT BOARD
39	3-703-079-21	(US,UK)...LABEL, COURTION (BACK)
40	3-703-108-21	SCREW +BV 3X6, S TIGHT
41	3-703-244-00	(AEP,UK,E)...BUSHING, CORD
42	3-703-486-00	+PTTWH 3X5
43	4-820-330-21	SCREW, BW, PLUS MINUS
44	4-864-307-00	RING
45	7-621-775-20	SCREW +B 2.6X5

GENERAL SECTION

No.	Part No.	Description
46	7-623-508-01	LUG, 3
47	7-682-147-20	SCREW +P 3X6
48	7-682-247-04	SCREW +K 3X6
49	7-685-146-21	SCREW +P 3X8 TYPE2 SLIT
50	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S
51	7-685-871-01	SCREW +BVTT 3X6 (S)
52	7-685-871-09	SCREW +BVTT 3X6 (S)
53	7-685-872-01	SCREW +BVTT 3X8 (S)
54	7-685-877-01	SCREW +BVTT 3X20 (S)
55	9-911-837-XX	CUSHION, FILTER
56	9-911-841-XX	CUSHION
57	X-3304-405-0	KNOB ASSY, POWER
58	X-3304-902-0	KNOB (RIGHT) ASSY, REC
59	X-3304-903-0	KNOB (LEFT) ASSY, REC
60	X-3304-904-3	PANEL ASSY, FRONT
61	X-3304-905-0	ESCUTCHEON SUB ASSY
62	X-3304-906-0	WINDOW ASSY, CASSETTE
63	X-3304-908-0	BUTTON ASSY, CONTROL
64	3-703-037-00	INSULATOR, TO-220
65	♦;3-304-908-11	(E)...PLATE, JACK
66	3-304-961-00	LABEL, MODEL NUMBER (E1,E2)
67	7-682-547-09	SCREW +B 3X6

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	1-551-734-11	CORD, CONNECTION (RK- 74A)
102	3-304-902-00	CUSHION (LEFT), UPPER
103	3-304-903-00	CUSHION (RIGHT), UPPER
104	3-304-904-00	CUSHION (LEFT), LOWER
105	3-304-905-00	CUSHION (RIGHT), LOWER
106	3-304-956-00	SHEET, PROTECTION
107	3-304-957-00	INDIVIDUAL CARTON
108	3-701-630-00	BAG, POLYETHYLENE
109	3-783-827-11	(UK,AEP,E)......MANUAL, INSTRUCTION
109	3-783-827-21	(US,Canadian)...MANUAL, INSTRUCTION
109	3-783-827-31	(Canadian)......MANUAL, INSTRUCTION
110	3-793-828-11	QUESTIONNAIRE
111	3-793-481-13	(Canadian,AEP,UK,E)...INSTRUCTION
112	4-873-610-00	SHEET, PROTECTION
113	8-890-434-11	(Canadian)...TAPE (EHF-46)
114	X-3701-105-0	ROD ASSY, CLEANING, HEAD

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers.
MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : μH

MECHANISM SECTION

No.	Part No.	Description
301	3-304-639-00	SHIELD PLATE, HEAD
302	♠;3-304-963-00	RETAINER, LEAD
303	3-306-209-00	PLATE (D), SHIELD, MOTOR
304	3-481-272-00	SPRING, COMPRESSION
305	3-489-077-21	SCREW, MOTOR STOPPER
306	3-491-191-00	COLLAR
307	3-537-205-00	SPRING, TENSION
308	3-537-213-00	SPRING, COMPRESSION
309	3-538-051-00	RUBBER, BRAKE
310	3-555-113-00	SPRING (RIGHT)
311	3-555-114-00	SPRING (LEFT)
312	3-558-708-01	WASHER, STOPPER
313	3-558-708-11	WASHER, STOPPER
314	3-558-708-21	WASHER, STOPPER
315	3-564-017-00	RUBBER, CUSHION
316	3-564-027-11	FELT, LIMITER
317	3-564-088-00	BELT (2), CAPSTAN
318	3-564-121-00	SPRING, COMPRESSION
319	3-564-138-00	GUIDE (S), TAPE
320	3-564-319-00	BELT, CAPSTAN
321	3-575-304-00	SHAFT, GEAR, FR
322	♠;3-575-307-00	LEVER, FWD
323	♠;3-575-314-00	LEVER, FULCRUM, HOLDER
324	3-575-318-00	LEVER, LOCK, TUNING
325	3-575-321-00	RETAINER, THRUST, CAPSTAN
326	3-575-324-00	GEAR, LIMITER
327	3-575-327-00	STOPPER
328	3-575-328-00	HOLDER, LAMP
329	♠;3-575-331-00	LEVER, DETECTION, HALF
330	3-575-332-00	GEAR, FR
331	3-575-333-00	PISTON
332	♠;3-575-334-00	LEVER, DETECTION, REC
333	3-575-345-00	SPRING
334	3-575-348-00	ROLLER, GUIDE, THREADING
335	3-575-350-00	CLAW, REEL TABLE
336	3-575-351-00	SPRING
337	3-575-354-00	LEVER, LOCK
338	3-575-355-00	HOLDER, CASSETTE
339	3-575-356-00	SPRING
340	3-575-358-00	SPRING, TENSION
341	3-575-364-00	SPRING, TENSION
342	3-575-365-00	SPRING, COMPRESSION
343	♠;3-575-377-00	SPRING
344	♠;3-575-378-00	GUIDE, LEAD
345	♠;3-575-381-00	RETAINER (W), THRUST

MECHANISM SECTION

No.	Part No.	Description
346	3-575-392-00	RING, PISTON
347	3-575-414-00	SPRING, COMPRESSION
348	3-575-415-11	ARBOR, MOVABLE
349	3-575-416-11	ARBOR, FIXED
350	....	
351	3-575-447-00	TABLE, REEL
352	3-575-458-00	SPRING
353	3-575-460-00	LEVER, SELECT TUNE
354	♠;3-575-464-00	BRACKET, HEAD, ERASE
355	3-575-469-00	SHOE, BRAKE
356	3-575-481-00	SPRING, TENSION
357	3-575-482-00	SPRING, TENSION
358	3-575-485-00	RUBBER, VIBRATION PROOF
359	3-575-486-00	SHEET, VIBRATION PROOF
360	3-576-835-01	SEAM, ADJUSTMENT, ERASE HEAD
361	3-576-835-11	SEAM, ADJUSTMENT, ERASE HEAD
362	3-701-438-21	WASHER
363	3-701-439-21	WASHER
364	3-701-441-01	WASHER
365	3-701-444-11	WASHER, 6
366	4-855-109-12	RUBBER, LIFTER CUSHION
367	7-621-772-00	SCREW +B 2X3
368	7-621-772-10	SCREW +B 2X4
369	3-701-467-01	SCREW 2X5
370	7-621-775-10	SCREW +B 2.6X4
371	7-621-775-50	SCREW +B 2.6X10
372	7-624-110-04	STOP RING 6.0, TYPE -E
373	7-627-552-38	SCREW, PRECISION +P 1.7X3
374	7-671-112-11	BALL, STEEL
375	7-671-113-11	BALL, STEEL
376	7-682-949-01	SCREW +PSW 3X10
377	7-684-023-04	N 3, TYPE 2
378	7-685-533-11	SCREW +BTP 2.6X6 TYPE2 N-S
379	7-685-791-01	SCREW +PTT 2.6X5 (S)
380	7-685-862-01	SCREW +BVTT 2.6X6 (S)
381	7-685-870-01	SCREW +BVTT 3X5 (S)
382	7-687-246-21	SCREW, TOTSU PTPWH 3X8,TYPE2
383	7-688-002-12	W 2.6, MIDDLE
384	♠;X-3575-301-0	PLATE (A) ASSY, HOLDER FULCRUM
385	♠;X-3575-302-0	PLATE (B) ASSY, FULCRUM
386	X-3575-304-0	PINCH LEVER (T) ASSY
387	X-3575-308-0	MOTOR COMPLETE ASSY, BSL
388	X-3575-310-0	LEVER ASSY, TENSION, BACK
389	X-3575-319-0	FLYWHEEL (RIGHT) ASSY
390	X-3575-320-0	FLYWHEEL (LEFT) ASSY

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SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : μH

MECHANISM SECTION

No.	Part No.	Description
391	X-3575-321-0	PINCH LEVER (S) ASSY
392	X-3575-322-0	BASE ASSY, CAPSTAN
393	X-3575-323-0	CHASSIS ASSY, HEAD
394	♠;X-3575-342-0	PLATE ASSY, BRAKE
395	♠;X-3575-344-0	CHASSIS ASSY, MECHANISM
396	X-3575-347-0	PLATE ASSY, ORNAMENTAL
397	X-3575-349-0	MOTOR ASSY, REEL

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	1-519-247-00	INDICATOR TUBE, FLUORESCENT			
502	⚠ .1-534-817-XX	(AEP)...........CORD, POWER			
502	⚠ .1-534-986-XX	(US,Canadian)...CORD, POWER			
502	⚠ .1-551-884-00	(UK)............CORD, POWER			
503	♠ ;1-560-060-00	PIN, CONNECTOR 2P			
504	♠ ;1-560-061-00	PIN, CONNECTOR 3P			
505	♠ ;1-560-062-00	PIN, CONNECTOR 4P			
506	♠ ;1-560-063-00	PIN, CONNECTOR 5P			
507	♠ ;1-560-064-00	PIN, CONNECTOR 6P			
508	♠ ;1-560-065-00	PIN, CONNECTOR 8P			
509	♠ ;1-560-338-00	PIN, CONNECTOR 7P			
510	♠ ;1-560-339-00	PIN, CONNECTOR 9P			
511	1-561-293-00	SOCKET (4P)			
512	♠ ;1-603-823-00	PC BOARD, PHOTO			
513	♠ ;1-603-825-00	PC BOARD, SERVO			
514	♠ ;1-606-772-00	PC BOARD, H.P			
515	♠ ;1-606-773-00	PC BOARD, LAMP			
516	♠ ;1-606-774-00	PC BOARD, PIN JACK			
517	♠ ;1-606-775-00	PC BOARD, VOL			
518	♠ ;1-606-776-00	PC BOARD, BIAS FINE			
519	♠ ;1-606-778-00	PC BOARD, TR-1			
520	♠ ;1-606-779-00	PC BOARD, TR-2			
521	♠ ;1-606-780-00	PC BOARD, TR-3			
522	♠ ;1-606-781-00	PC BOARD, TIMER			
523	♠ ;1-606-783-00	PC BOARD, METER (A)			
524	♠ ;1-606-784-00	PC BOARD, METER (B)			
525	♠ ;1-606-785-00	PC BOARD, SW			
526	♠ ;1-606-786-00	PC BOARD, MD			
527	♠ ;1-607-454-00	PC, BOARD, REVERSE ROTARY			
529	8-825-604-30	HEAD, ERASE			
530	8-825-728-21	HEAD, REC/PB RPS202-3602A			
531	A-2006-047-A	MOUNTED PCB, REC			
532	A-2008-034-A	MOUNTED PCB, PB			
533	A-2019-141-A	MOUNTED PCB, SYSTEM CONTROL			
534	⚠.1-526-576-31	(E)....SELECTOR, POWER VOLTAGE			
535	⚠.1-551-472-00	(E2)...CORD, POWER			
536	⚠.1-555-734-00	(E1)...CORD, POWER			
C001	⚠.1-130-230-00	(E)............CAP, FILM	0.01MF		300V
C001	⚠.1-161-749-00,	(US,Canadian)..CAP, CERAMIC	10000PF		125V
C001	⚠.1-161-744-00	(AEP,UK).......CAP, CERAMIC	10000PF		400V
C103	1-130-305-00	FILM	0.022MF	5%	100V
C104	1-123-830-00	ELECT	4.7MF	20%	50V
C105	1-130-289-00	FILM	0.0047MF	5%	100V
C107	1-161-319-00	CERAMIC	470PF	10%	50V
C108	1-130-634-00	FILM	0.15MF	5%	50V
C109	1-130-628-00	FILM	0.047MF	5%	50V
C110	1-130-625-00	FILM	0.027MF	5%	50V
C113	1-130-892-00	FILM	0.015MF	3%	100V
C114	1-130-856-00	FILM	0.0068MF	3%	100V
C115	1-130-623-00	FILM	0.018MF	5%	50V
C119	1-130-634-00	FILM	0.15MF	5%	50V
C120	1-130-632-00	FILM	0.1MF	5%	50V
C121	1-130-632-00	FILM	0.1MF	5%	50V
C122	1-130-621-00	FILM	0.012MF	5%	50V
C124	1-130-851-00	FILM	0.082MF	3%	100V

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- All capacitors are in µF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:µF, PF:µµF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : µH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C126	1-130-893-00	FILM	0.027MF	3%	100V
C127	1-130-856-00	FILM	0.0068MF	3%	100V
C128	1-123-232-00	ELECT	4.7MF	20%	50V
C203	1-130-305-00	FILM	0.022MF	5%	100V
C204	1-123-830-00	ELECT	4.7MF	20%	50V
C205	1-130-289-00	FILM	0.0047MF	5%	100V
C207	1-161-319-00	CERAMIC	470PF	10%	50V
C208	1-130-634-00	FILM	0.15MF	5%	50V
C209	1-130-628-00	FILM	0.047MF	5%	50V
C210	1-130-625-00	FILM	0.027MF	5%	50V
C213	1-130-892-00	FILM	0.015MF	3%	100V
C214	1-130-856-00	FILM	0.0068MF	3%	100V
C215	1-130-623-00	FILM	0.018MF	5%	50V
C219	1-130-634-00	FILM	0.15MF	5%	50V
C220	1-130-632-00	FILM	0.1MF	5%	50V
C221	1-130-632-00	FILM	0.1MF	5%	50V
C222	1-130-621-00	FILM	0.012MF	5%	50V
C224	1-130-851-00	FILM	0.082MF	3%	100V
C226	1-130-893-00	FILM	0.027MF	3%	100V
C227	1-130-856-00	FILM	0.0068MF	3%	100V
C228	1-123-232-00	ELECT	4.7MF	20%	50V
C308	1-130-634-00	FILM	0.15MF	5%	50V
C309	1-130-632-00	FILM	0.1MF	5%	50V
C310	1-130-632-00	FILM	0.1MF	5%	50V
C311	1-130-621-00	FILM	0.012MF	5%	50V
C315	1-130-851-00	FILM	0.082MF	3%	100V
C317	1-130-856-00	FILM	0.0068MF	3%	100V
C318	1-130-893-00	FILM	0.027MF	3%	100V
C319	1-123-232-00	ELECT	4.7MF	20%	50V
C321	1-130-625-00	FILM	0.027MF	5%	50V
C323	1-123-234-00	ELECT	10MF	20%	50V
C324	1-130-621-00	FILM	0.012MF	5%	50V
C325	1-130-626-00	FILM	0.033MF	5%	50V
C326	1-130-625-00	FILM	0.027MF	5%	50V
C327	1-130-626-00	FILM	0.033MF	5%	50V
C329	1-130-623-00	FILM	0.018MF	5%	50V
C334	1-130-634-00	FILM	0.15MF	5%	50V
C335	1-130-628-00	FILM	0.047MF	5%	50V
C336	1-130-625-00	FILM	0.027MF	5%	50V
C339	1-130-856-00	FILM	0.0068MF	3%	100V
C340	1-130-623-00	FILM	0.018MF	5%	50V
C358	1-130-892-00	FILM	0.015MF	3%	100V
C408	1-130-634-00	FILM	0.15MF	5%	50V
C409	1-130-632-00	FILM	0.1MF	5%	50V
C410	1-130-632-00	FILM	0.1MF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C411	1-130-621-00	FILM	0.012MF	5%	50V
C415	1-130-851-00	FILM	0.082MF	3%	100V
C417	1-130-856-00	FILM	0.0068MF	3%	100V
C418	1-130-893-00	FILM	0.027MF	3%	100V
C419	1-123-232-00	ELECT	4.7MF	20%	50V
C421	1-130-625-00	FILM	0.027MF	5%	50V
C423	1-123-234-00	ELECT	10MF	20%	50V
C424	1-130-621-00	FILM	0.012MF	5%	50V
C425	1-130-626-00	FILM	0.033MF	5%	50V
C426	1-130-625-00	FILM	0.027MF	5%	50V
C427	1-130-626-00	FILM	0.033MF	5%	50V
C429	1-130-623-00	FILM	0.018MF	5%	50V
C434	1-130-634-00	FILM	0.15MF	5%	50V
C435	1-130-628-00	FILM	0.047MF	5%	50V
C436	1-130-625-00	FILM	0.027MF	5%	50V
C439	1-130-856-00	FILM	0.0068MF	3%	100V
C440	1-130-623-00	FILM	0.018MF	5%	50V
C458	1-130-892-00	FILM	0.015MF	3%	100V
C507	⚠.1-123-335-00	ELECT	330MF	20%	25V
C508	⚠.1-123-311-00	ELECT	1000MF	20%	10V
C509	⚠.1-123-335-00	ELECT	330MF	20%	25V
C511	⚠.1-123-311-00	ELECT	1000MF	20%	10V
C513	1-141-225-00	CAP, TUNING, TRIMMER			
C601	⚠.1-123-337-00	ELECT	1000MF	20%	25V
C602	⚠.1-123-697-00	ELECT	1000MF	20%	25V
C603	⚠.1-123-697-00	ELECT	1000MF	20%	25V
C604	⚠.1-123-361-00	ELECT	220MF	20%	25V
C609	⚠.1-123-349-00	ELECT	1000MF	20%	35V
C610	⚠.1-123-325-00	ELECT	2200MF	20%	16V
C636	⚠.1-123-323-00	ELECT	470MF	20%	16V
C901	1-130-134-00	FILM	0.082MF	5%	100V
CNJ301	1-507-531-00	PLATE, PIN-JACK			
CNJ302	1-507-531-00	PLATE, PIN-JACK			
CNJ401	1-507-531-00	PLATE, PIN-JACK			
CNJ402	1-507-531-00	PLATE, PIN-JACK			
CNJ501	1-507-659-00	JACK			
CP501	1-464-132-00	UNIT, BIAS OSCILLATOR			
D501	8-719-910-64	DIODE HZ6B1L			
D502	8-719-910-64	DIODE HZ6B1L			
D503	8-719-815-55	DIODE 1S1555			
D504	8-719-815-55	DIODE 1S1555			
D505	8-719-815-55	DIODE 1S1555			
D506	8-719-815-55	DIODE 1S1555			
D507	8-719-815-55	DIODE 1S1555			
D508	8-719-815-55	DIODE 1S1555			
D509	8-719-815-55	DIODE 1S1555			

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
D601⚠.	8-719-200-02	DIODE 10E-2
D602⚠.	8-719-200-02	DIODE 10E-2
D603⚠.	8-719-200-02	DIODE 10E-2
D604⚠.	8-719-200-02	DIODE 10E-2
D605⚠.	8-719-200-02	DIODE 10E-2
D606⚠.	8-719-999-81	DIODE EQA01-08R1
D607	8-719-200-02	DIODE 10E-2
D608	8-719-200-02	DIODE 10E-2
D609	8-719-902-23	DIODE HZ22-3L
D610	8-719-922-71	DIODE HZ27-1L
D611⚠.	8-719-200-02	DIODE 10E-2
D612⚠.	8-719-200-02	DIODE 10E-2
D613⚠.	8-719-200-02	DIODE 10E-2
D614⚠.	8-719-200-02	DIODE 10E-2
D615	8-719-103-39	DIODE RD7.5J-N1
D616	8-719-815-55	DIODE 1S1555
D617	8-719-815-55	DIODE 1S1555
D618	8-719-910-92	DIODE HZ9A2L
D619	8-719-815-55	DIODE 1S1555
D620	8-719-815-55	DIODE 1S1555
D621	8-719-815-55	DIODE 1S1555
D622	8-719-815-55	DIODE 1S1555
D623	8-719-815-55	DIODE 1S1555
D624	8-719-815-55	DIODE 1S1555
D625	8-719-200-02	DIODE 10E-2
D626	8-719-200-02	DIODE 10E-2
D627	8-719-815-55	DIODE 1S1555
D628	8-719-815-55	DIODE 1S1555
D629	8-719-815-55	DIODE 1S1555
D630	8-719-815-55	DIODE 1S1555
D631	8-719-815-55	DIODE 1S1555
D632	8-719-200-02	DIODE 10E-2
D633	8-719-815-55	DIODE 1S1555
D634	8-719-815-55	DIODE 1S1555
D636	8-719-815-55	DIODE 1S1555
D637	8-719-815-55	DIODE 1S1555
D638	8-719-815-55	DIODE 1S1555
D639	8-719-200-02	DIODE 10E-2
D640	8-719-200-02	DIODE 10E-2
D641	8-719-815-55	DIODE 1S1555
D642	8-719-815-55	DIODE 1S1555
D643	8-719-815-55	DIODE 1S1555
D644	8-719-815-55	DIODE 1S1555
D645	8-719-815-55	DIODE 1S1555
D701	8-719-934-05	DIODE SLR-34URC5
D702	8-719-902-26	DIODE SLR-34PG5
D703	8-719-902-25	DIODE SLR-34DU5
D801	8-719-910-29	DIODE HZ12C3L
D802	8-719-815-55	DIODE 1S1555
D803	8-719-815-55	DIODE 1S1555
D901	8-719-100-27	DIODE RD4.7E-B2
D902	8-719-815-55	DIODE 1S1555
D903	8-719-815-55	DIODE 1S1555
H901	8-719-814-11	DIODE THS102
H902	8-719-814-11	DIODE THS102
IC101	8-759-300-74	IC CX-174A
IC102	8-759-300-74	IC CX-174A
IC201	8-759-300-74	IC CX-174A
IC202	8-759-300-74	IC CX-174A
IC301	8-759-300-74	IC CX-174A
IC302	8-759-300-74	IC CX-174A
IC401	8-759-300-74	IC CX-174A
IC402	8-759-300-74	IC CX-174A
IC501	8-759-700-04	IC NJM2043D-D
IC502	8-759-961-38	IC BA6138
IC503	8-759-145-57	IC UPC4557C
IC601	8-759-900-71	IC MSM58361RS
IC602	8-759-729-03	IC NJM2903D
IC603	8-759-133-90	IC UPC339C
IC604	8-759-984-69	IC MB84069B
IC801	8-759-904-72	IC MSL9359RS
IC802	8-759-100-12	IC UPD554C089
IC901	8-759-600-69	IC CX-069A
IC902	8-759-700-58	IC NJM4558D-FA
L101	1-407-240-00	MICRO INDUCTOR 22MMH
L102	1-408-259-00	MICRO INDUCTOR 15MMH
L201	1-407-240-00	MICRO INDUCTOR 22MMH
L202	1-408-259-00	MICRO INDUCTOR 15MMH
L301	1-408-259-00	MICRO INDUCTOR 15MMH
L302	1-408-253-00	MICRO INDUCTOR 4.7MMH
L303	1-408-250-00	MICRO INDUCTOR 2.7MMH
L304	1-408-249-00	MICRO INDUCTOR 2.2MMH
L305	1-408-249-00	MICRO INDUCTOR 2.2MMH
L306	1-408-259-00	MICRO INDUCTOR 15MMH
L401	1-408-259-00	MICRO INDUCTOR 15MMH
L402	1-408-253-00	MICRO INDUCTOR 4.7MMH
L403	1-408-250-00	MICRO INDUCTOR 2.7MMH
L404	1-408-249-00	MICRO INDUCTOR 2.2MMH
L405	1-408-249-00	MICRO INDUCTOR 2.2MMH

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- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers.
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
L406	1-408-259-00	MICRO INDUCTOR 15MMH
L501	1-407-177-XX	MICRO INDUCTOR 470UH
L502	1-407-177-XX	MICRO INDUCTOR 470UH
L801	1-407-177-XX	MICRO INDUCTOR 470UH
LPF301	1-231-388-00	FILTER, LOWPASS
LPF401	1-231-388-00	FILTER, LOWPASS
M1	1-541-163-00	MOTOR
PL1	1-518-313-00	LAMP, PILOT
PL501	1-518-489-21	LAMP, PILOT
PL502	1-518-489-21	LAMP, PILOT
PM1	1-454-288-00	SOLENOID, PLUNGER
PM2	1-454-291-00	SOLENOID, PLUNGER
Q101	8-729-663-47	TRANSISTOR 2SC1364
Q102	8-729-663-48	TRANSISTOR 2SC1364-8
Q103	8-729-663-48	TRANSISTOR 2SC1364-8
Q104	8-729-663-48	TRANSISTOR 2SC1364-8
Q105	8-729-663-48	TRANSISTOR 2SC1364-8
Q106	8-729-663-48	TRANSISTOR 2SC1364-8
Q107	8-729-663-48	TRANSISTOR 2SC1364-8
Q108	8-729-663-48	TRANSISTOR 2SC1364-8
Q109	8-729-663-48	TRANSISTOR 2SC1364-8
Q110	8-729-663-48	TRANSISTOR 2SC1364-8
Q201	8-729-663-47	TRANSISTOR 2SC1364
Q202	8-729-663-48	TRANSISTOR 2SC1364-8
Q203	8-729-663-48	TRANSISTOR 2SC1364-8
Q204	8-729-663-48	TRANSISTOR 2SC1364-8
Q205	8-729-663-48	TRANSISTOR 2SC1364-8
Q206	8-729-663-48	TRANSISTOR 2SC1364-8
Q207	8-729-663-48	TRANSISTOR 2SC1364-8
Q208	8-729-663-48	TRANSISTOR 2SC1364-8
Q209	8-729-663-48	TRANSISTOR 2SC1364-8
Q210	8-729-663-48	TRANSISTOR 2SC1364-8
Q301	8-729-334-58	TRANSISTOR 2SC1345
Q302	8-729-663-48	TRANSISTOR 2SC1364-8
Q303	8-729-663-48	TRANSISTOR 2SC1364-8
Q304	8-729-663-48	TRANSISTOR 2SC1364-8
Q305	8-729-663-48	TRANSISTOR 2SC1364-8
Q306	8-729-663-48	TRANSISTOR 2SC1364-8
Q307	8-729-663-48	TRANSISTOR 2SC1364-8
Q308	8-729-663-48	TRANSISTOR 2SC1364-8
Q309	8-729-663-48	TRANSISTOR 2SC1364-8
Q310	8-729-663-48	TRANSISTOR 2SC1364-8
Q311	8-729-663-48	TRANSISTOR 2SC1364-8
Q312	8-729-100-13	TRANSISTOR 2SC2001
Q313	8-729-663-47	TRANSISTOR 2SC1364
Q314	8-729-663-48	TRANSISTOR 2SC1364-8
Q401	8-729-334-58	TRANSISTOR 2SC1345
Q402	8-729-663-48	TRANSISTOR 2SC1364-8
Q403	8-729-663-48	TRANSISTOR 2SC1364-8
Q404	8-729-663-48	TRANSISTOR 2SC1364-8
Q405	8-729-663-48	TRANSISTOR 2SC1364-8
Q406	8-729-663-48	TRANSISTOR 2SC1364-8
Q407	8-729-663-48	TRANSISTOR 2SC1364-8
Q408	8-729-663-48	TRANSISTOR 2SC1364-8
Q409	8-729-663-48	TRANSISTOR 2SC1364-8
Q410	8-729-663-48	TRANSISTOR 2SC1364-8
Q411	8-729-663-48	TRANSISTOR 2SC1364-8
Q412	8-729-100-13	TRANSISTOR 2SC2001
Q413	8-729-663-47	TRANSISTOR 2SC1364
Q414	8-729-663-48	TRANSISTOR 2SC1364-8
Q501	8-729-203-02	TRANSISTOR 2SK30A-0
Q502	8-729-315-22	TRANSISTOR 2SD1152
Q503	8-729-315-22	TRANSISTOR 2SD1152
Q504	8-729-180-93	TRANSISTOR 2SD809
Q505	8-729-384-48	TRANSISTOR 2SA844
Q506	8-729-203-02	TRANSISTOR 2SK30A-0
Q507	8-729-384-48	TRANSISTOR 2SA844
Q508	8-729-173-13	TRANSISTOR 2SD731
Q510	8-729-663-47	TRANSISTOR 2SC1364
Q511	8-729-663-47	TRANSISTOR 2SC1364
Q512	8-729-612-77	TRANSISTOR 2SA1027R
Q513	8-729-612-77	TRANSISTOR 2SA1027R
Q514	8-729-663-48	TRANSISTOR 2SC1364-8
Q515	8-729-663-48	TRANSISTOR 2SC1364-8
Q601	8-729-180-93	TRANSISTOR 2SD809
Q602	8-729-180-93	TRANSISTOR 2SD809
Q603	8-729-288-02	TRANSISTOR 2SD880
Q604	8-729-663-47	TRANSISTOR 2SC1364
Q605	8-729-180-93	TRANSISTOR 2SD809
Q606	8-729-663-47	TRANSISTOR 2SC1364
Q607	8-729-612-77	TRANSISTOR 2SA1027R
Q608	8-729-612-77	TRANSISTOR 2SA1027R
Q609	8-729-663-47	TRANSISTOR 2SC1364
Q610	8-729-663-47	TRANSISTOR 2SC1364
Q611	8-729-663-47	TRANSISTOR 2SC1364
Q612	8-729-663-47	TRANSISTOR 2SC1364
Q613	8-729-663-47	TRANSISTOR 2SC1364
Q614	8-729-663-47	TRANSISTOR 2SC1364
Q615	8-729-663-47	TRANSISTOR 2SC1364
Q616	8-729-663-47	TRANSISTOR 2SC1364

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SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers.
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
Q617	8-729-612-77	TRANSISTOR 2SA1027R				
Q618	8-729-612-77	TRANSISTOR 2SA1027R				
Q619	8-729-612-77	TRANSISTOR 2SA1027R				
Q620	8-729-612-77	TRANSISTOR 2SA1027R				
Q621	8-729-612-77	TRANSISTOR 2SA1027R				
Q622	8-729-612-77	TRANSISTOR 2SA1027R				
Q623	8-729-612-77	TRANSISTOR 2SA1027R				
Q624	8-729-663-47	TRANSISTOR 2SC1364				
Q625	8-729-663-47	TRANSISTOR 2SC1364				
Q626	8-729-102-03	TRANSISTOR 2SD1020				
Q627	8-729-102-03	TRANSISTOR 2SD1020				
Q628	8-729-103-43	TRANSISTOR 2SB734				
Q629	8-729-663-48	TRANSISTOR 2SC1364-8				
Q630	8-729-880-82	TRANSISTOR 2SB808				
Q631	8-729-880-82	TRANSISTOR 2SB808				
Q632	8-729-102-03	TRANSISTOR 2SD1020				
Q633	8-729-102-03	TRANSISTOR 2SD1020				
Q634	8-729-663-47	TRANSISTOR 2SC1364				
Q635	8-729-180-93	TRANSISTOR 2SD809				
Q636	8-729-612-77	TRANSISTOR 2SA1027R				
Q637	8-729-663-47	TRANSISTOR 2SC1364				
Q638	8-729-663-47	TRANSISTOR 2SC1364				
Q639	8-729-103-43	TRANSISTOR 2SB734				
Q640	8-729-663-48	TRANSISTOR 2SC1364-8				
Q641	8-729-612-77	TRANSISTOR 2SA1027R				
Q642	8-729-612-77	TRANSISTOR 2SA1027R				
Q643	8-729-663-48	TRANSISTOR 2SC1364-8				
Q801	8-729-663-48	TRANSISTOR 2SC1364-8				
Q803	8-729-612-77	TRANSISTOR 2SA1027R				
Q805	8-729-612-77	TRANSISTOR 2SA1027R				
Q807	8-729-612-77	TRANSISTOR 2SA1027R				
Q808	8-729-612-77	TRANSISTOR 2SA1027R				
Q901	8-729-177-43	TRANSISTOR 2SD774				
Q902	8-729-103-43	TRANSISTOR 2SB734				
Q903	8-729-177-43	TRANSISTOR 2SD774				
Q904	8-729-103-43	TRANSISTOR 2SB734				
Q905	8-729-110-21	TRANSISTOR PH102				
Q906	8-729-110-21	TRANSISTOR PH102				
R116	1-214-966-00	METAL	1.2M	1%	1/4W	
R119	1-214-758-00	METAL	16K	1%	1/4W	
R122	1-214-766-00	METAL	36K	1%	1/4W	
R126	1-214-713-00	METAL	220	1%	1/4W	
R128	1-214-746-00	METAL	5.1K	1%	1/4W	
R130	1-214-741-00	METAL	3.3K	1%	1/4W	
R131	1-214-753-00	METAL	10K	1%	1/4W	
R132	1-214-741-00	METAL	3.3K	1%	1/4W	
R142	1-214-964-00	METAL	1M	1%	1/4W	
R145	1-214-758-00	METAL	16K	1%	1/4W	
R216	1-214-966-00	METAL	1.2M	1%	1/4W	
R219	1-214-758-00	METAL	16K	1%	1/4W	
R222	1-214-766-00	METAL	36K	1%	1/4W	
R226	1-214-713-00	METAL	220	1%	1/4W	
R228	1-214-746-00	METAL	5.1K	1%	1/4W	
R230	1-214-741-00	METAL	3.3K	1%	1/4W	
R231	1-214-753-00	METAL	10K	1%	1/4W	
R232	1-214-741-00	METAL	3.3K	1%	1/4W	
R242	1-214-964-00	METAL	1M	1%	1/4W	
R245	1-214-758-00	METAL	16K	1%	1/4W	
R314	1-214-964-00	METAL	1M	1%	1/4W	
R320	1-214-758-00	METAL	16K	1%	1/4W	
R337	1-214-966-00	METAL	1.2M	1%	1/4W	
R341	1-214-758-00	METAL	16K	1%	1/4W	
R349	1-214-746-00	METAL	5.1K	1%	1/4W	
R351	1-214-713-00	METAL	220	1%	1/4W	
R356	1-214-741-00	METAL	3.3K	1%	1/4W	
R360	1-214-753-00	METAL	10K	1%	1/4W	
R361	1-214-741-00	METAL	3.3K	1%	1/4W	
R366	1-214-739-00	METAL	2.7K	1%	1/4W	
R414	1-214-964-00	METAL	1M	1%	1/4W	
R420	1-214-758-00	METAL	16K	1%	1/4W	
R437	1-214-966-00	METAL	1.2M	1%	1/4W	
R441	1-214-758-00	METAL	16K	1%	1/4W	
R449	1-214-746-00	METAL	5.1K	1%	1/4W	
R451	1-214-713-00	METAL	220	1%	1/4W	
R456	1-214-741-00	METAL	3.3K	1%	1/4W	
R460	1-214-753-00	METAL	10K	1%	1/4W	
R461	1-214-741-00	METAL	3.3K	1%	1/4W	
R466	1-214-739-00	METAL	2.7K	1%	1/4W	
R693	⚠.1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R710	⚠.1-206-470-00	METAL OXIDE	20	5%	2W	F
R718	⚠.1-212-855-00	FUSIBLE	8.2	5%	1/4W	F
R719	⚠.1-217-393-00	FUSIBLE	33	5%	1/4W	F
R911	1-214-743-00	METAL	3.9K	1%	1/4W	
R914	1-214-743-00	METAL	3.9K	1%	1/4W	
R950	⚠.1-217-379-00	FUSIBLE	2.2	5%	1/4W	F
R951	⚠.1-217-379-00	FUSIBLE	2.2	5%	1/4W	F
RV101	1-224-645-XX	RES, ADJ, CARBON 10K				
RV201	1-224-645-XX	RES, ADJ, CARBON 10K				
RV301	1-224-646-XX	RES, ADJ, CARBON 22K				

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SEMICONDUCTORS
In each case, U : µ, for example:
UA···: µA···, UPA···: µPA···, UPC···: µPC,
UPD···: µPD···

CAPACITORS:
- All capacitors are in µF. Common capacitors are omitted. Refer to the following lists for their part numbers.
MF:µF, PF:µµF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : µH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV302	1-226-236-00	RES, ADJ, CARBON 10K
RV401	1-224-646-XX	RES, ADJ, CARBON 22K
RV402	1-226-236-00	RES, ADJ, CARBON 10K
RV501	1-226-740-00	RES, VAR, CARBON 20K/20K
RV502	1-226-560-00	RES, VAR, CARBON 5K
RV503	1-226-980-00	RES, VAR, CARBON 20K/20K
RV601	1-226-233-00	RES, ADJ, CARBON 1K
RV901	1-224-661-00	RES, ADJ, METAL GLAZE 50K
S501	1-554-007-00	SWITCH, PUSH
S502	1-554-007-00	SWITCH, PUSH
S503	1-554-007-00	SWITCH, PUSH
S504	1-554-007-00	SWITCH, PUSH
S505	1-554-008-00	SWITCH, PUSH
S506	1-554-008-00	SWITCH, PUSH
S507	1-554-008-00	SWITCH, PUSH
S601	1-552-809-00	SWITCH, SLIDE
S701	1-552-539-00	SWITCH, KEY BOARD
S702	1-552-539-00	SWITCH, KEY BOARD
S703	1-552-539-00	SWITCH, KEY BOARD
S704	1-552-539-00	SWITCH, KEY BOARD
S705	1-552-539-00	SWITCH, KEY BOARD
S706	1-552-539-00	SWITCH, KEY BOARD
S707	1-552-539-00	SWITCH, KEY BOARD
S708	1-553-235-00	SWITCH, KEY BOARD
S709	1-553-235-00	SWITCH, KEY BOARD
S801	1-552-532-00	SWITCH, PUSH
S802	1-552-532-00	SWITCH, PUSH
S901	⚠.1-553-318-00	(UK,AEP,E)......SWITCH, PUSH (AC POWER)
S901	⚠.1-553-319-00	(US,Canadian)...SWITCH, PUSH (AC POWER)
T901	⚠.1-447-319-00	(US,Canadian)...TRANSFORMER, POWER
T901	⚠.1-447-320-00	(E).............TRANSFORMER, POWER
T901	⚠.1-447-321-00	(AEP,UK)........TRANSFORMER, POWER

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CAPACITORS:
- All capacitors are in µF. Common capacitors are omitted. Refer to the following lists for their part numbers.
MF:µF, PF:µµF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
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ELECTROLYTIC CAPACITORS

	RATING					→ : Use the high voltage rated one.
CAP. (µF)	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (µF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

			RATING				
CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (µF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001µF = 1,000pF

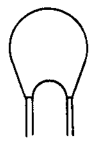
CERAMIC (SEMICONDUCTOR) CAPACITORS

			RATING		→ : Use the high voltage rated one.
CAP. (µF)	25 VOLT.	50 VOLT.	CAP. (µF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

					RATING						
CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

TANTALUM CAPACITORS



			RATING		→ : Use the high voltage rated one.		
CAP. (µF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			

TANTALUM CAPACITORS

			RATING			
CAP. (µF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

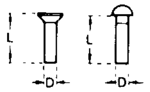
1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

L: Length in mm
D: Diameter in mm
Type of head
Indicated slotted-head only.
Unless otherwise indicated, it means cross-recessed head (Phillips type).

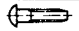
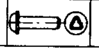
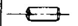
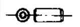
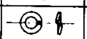


Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Nut, Washer, Retaining ring:

N 3

Diameter of usable screw or shaft
Reference designation

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

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STEREO-CASSETTE DECK

TC-K555

US Model 188
Canadian Model
AEP Model
UK Model
E Model

SUPPLEMENT

File this supplement with the service manual.

No. 1
February, 1983

CHANGED PORTION

- Addition of the record head azimuth adjustment.
- Modification of a part of the schematic diagram and the mounting diagram, due to the Dolby C Level Adjustment addition.

[Changed Parts List]

Ref. No.	Part No.	Description	
R165	1-214-964-00	METAL 1M 1% ¼W	added
R265	1-214-964-00	METAL 1M 1% ¼W	added
R3006	1-214-964-00	METAL 1M 1% ¼W	added
R4006	1-214-946-00	METAL 1M 1% ¼W	added
D701	8-719-902-33	DIODE SLR-34UR5	changed

Sony Corporation
Consumer Products Group
Technical Support Dept.

English
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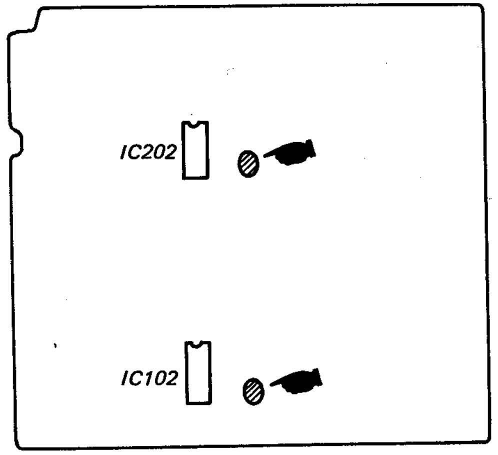
188

- **Addition of Dolby C level adjustment**

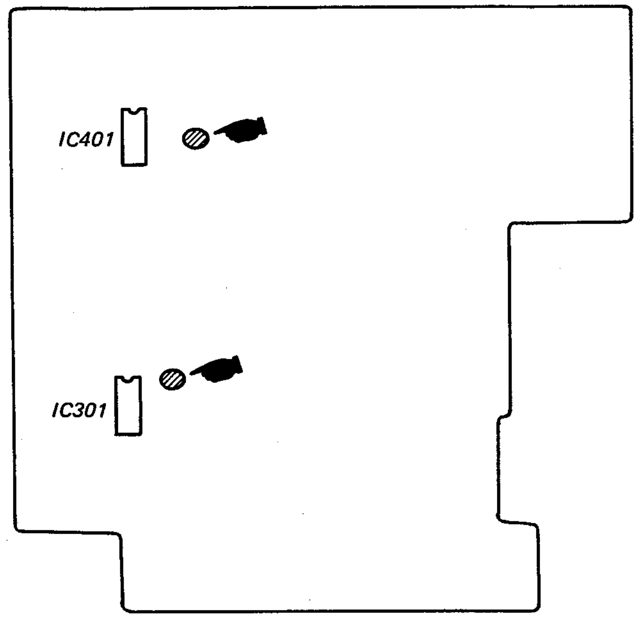
Amp section – P35 –

changed portion: ☛

[PLAYBACK BOARD]



[RECORD BOARD]



SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

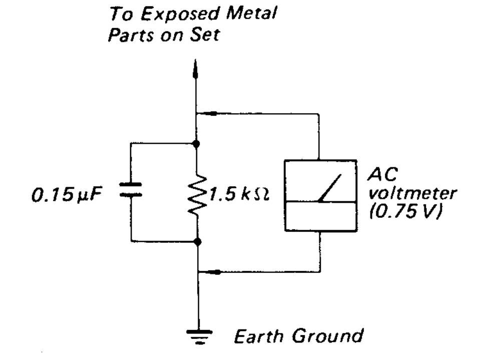


Fig. A. Using an AC voltmeter to check AC leakage.

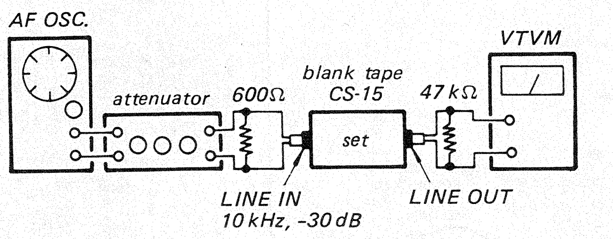
Record Head Azimuth Adjustment (Record head azimuth adjustment should be made later than playback head azimuth adjustment.)

Setting:

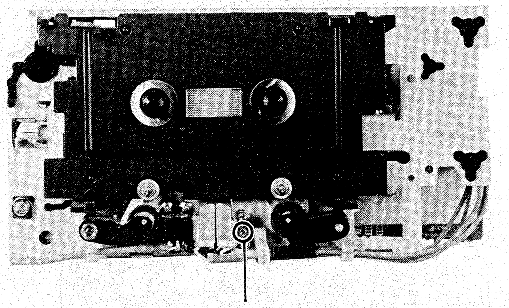
MONITOR: TAPE
REC LEVEL control: standard record
TAPE: TYPE I

Procedure:

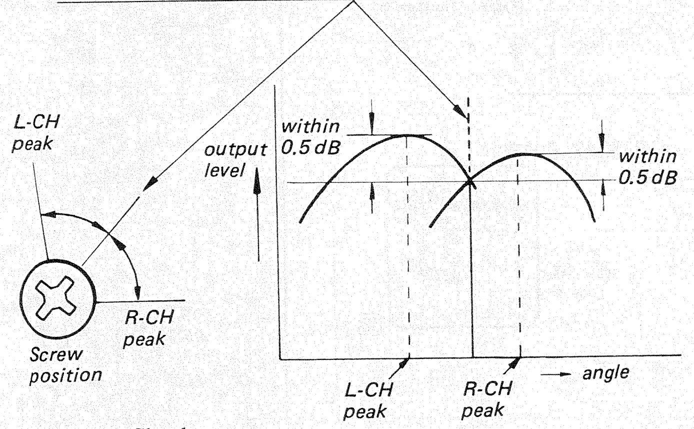
record and playback mode


AF OSC.
attenuator
600Ω
blank tape
CS-15
set
47kΩ
VTVM
LINE IN
10kHz, -30dB
LINE OUT

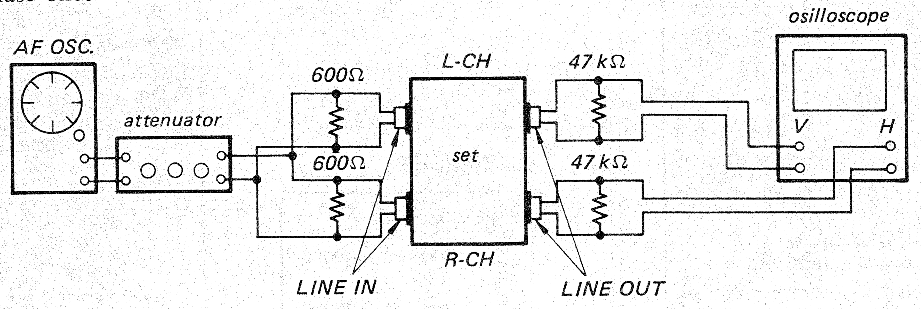
Adjustment Location:

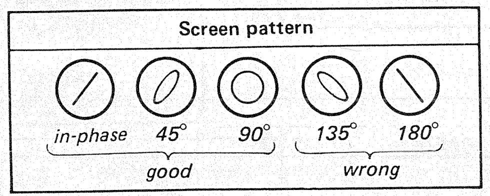

adjustment screw

1. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.


L-CH
peak
R-CH
peak
Screw
position
output
level
within
0.5dB
within
0.5dB
L-CH
peak
R-CH
peak
angle

2. Phase Check


AF OSC.
attenuator
600Ω
600Ω
L-CH
set
R-CH
47kΩ
47kΩ
osilloscope
V
H
LINE IN
LINE OUT


Screen pattern
in-phase
45°
90°
135°
180°
good
wrong

Adjust the screw so that L-CH and R-CH are in phase.

Specification:

Phase difference between L-CH and R-CH: less than 90°
Level difference between L-CH and R-CH: less than 1 dB

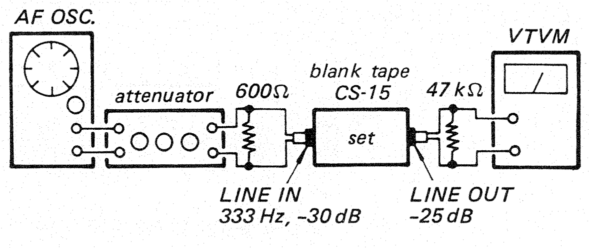
DOLBY C Level Adjustment

Setting:

MONITOR: TAPE
TAPE: TYPE I

Procedure:

record and playback mode


AF OSC.
attenuator
600Ω
blank tape
CS-15
set
47kΩ
VTVM
LINE IN
333Hz, -30dB
LINE OUT
-25dB

1. Set DOLBY switch to DOLBY C.
   Adjust for obtaining the specification.

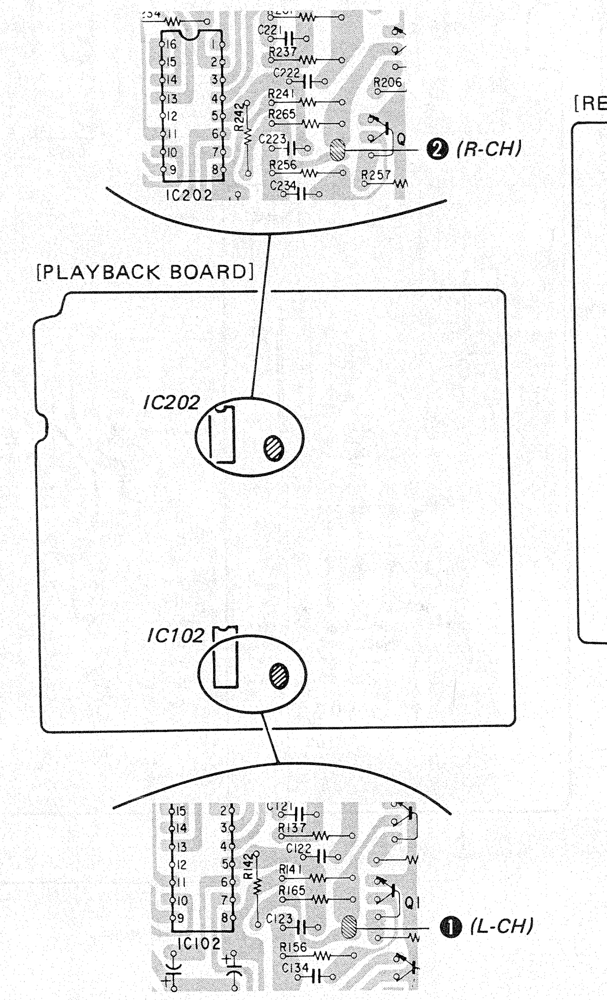
Specification:

- LINE OUT level: -25 dB ± 2 dB
- Level difference between L-CH and R-CH: less than 2 dB

Adjustment Location:

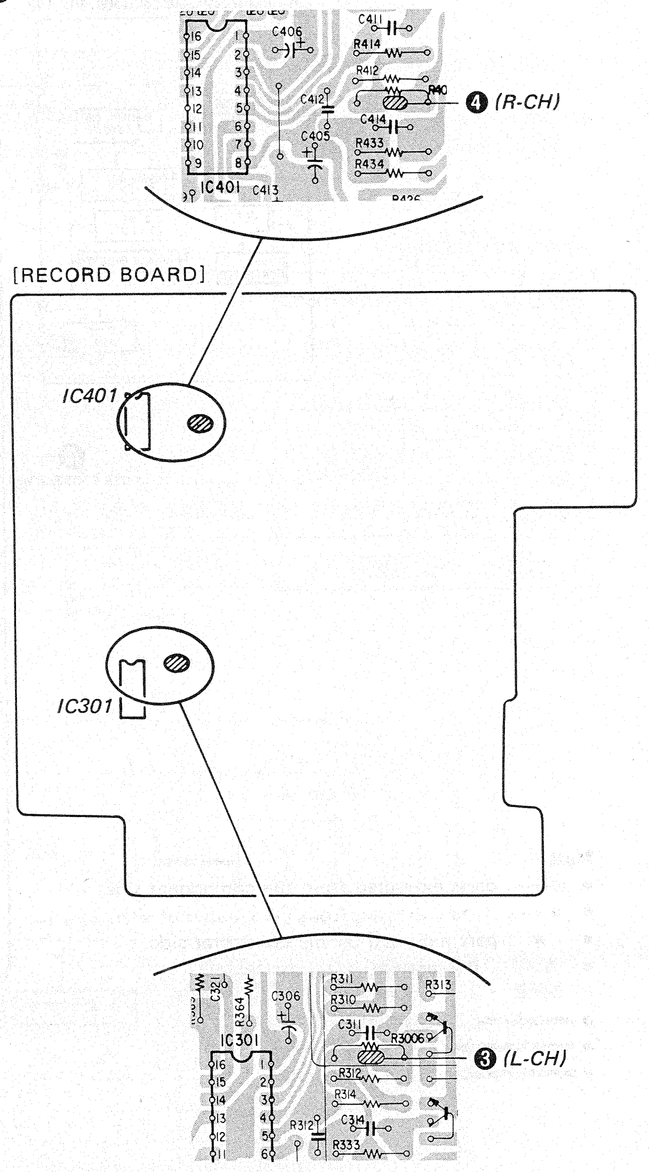
– playback board –

If LINE OUT level is higher than the specification, unsolder the portion marked by ❶ (L-CH), ❷ (R-CH).


IC202
R206
R257
❷ (R-CH)
[PLAYBACK BOARD]
IC202
IC102
IC102
Q1
❶ (L-CH)

– record board –

If LINE OUT level is lower than the specification, unsolder the portion marked by ❸ (L-CH), ❹ (R-CH).


IC401
❹ (R-CH)
[RECORD BOARD]
IC401
IC301
IC301
❸ (L-CH)

A B C D E F G H I J K L M N O P

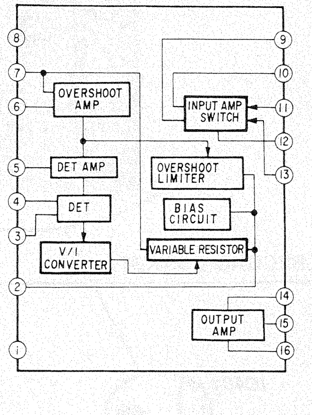
1 2 3 4 5 6 7 8 9 10

MOUNTING DIAGRAM

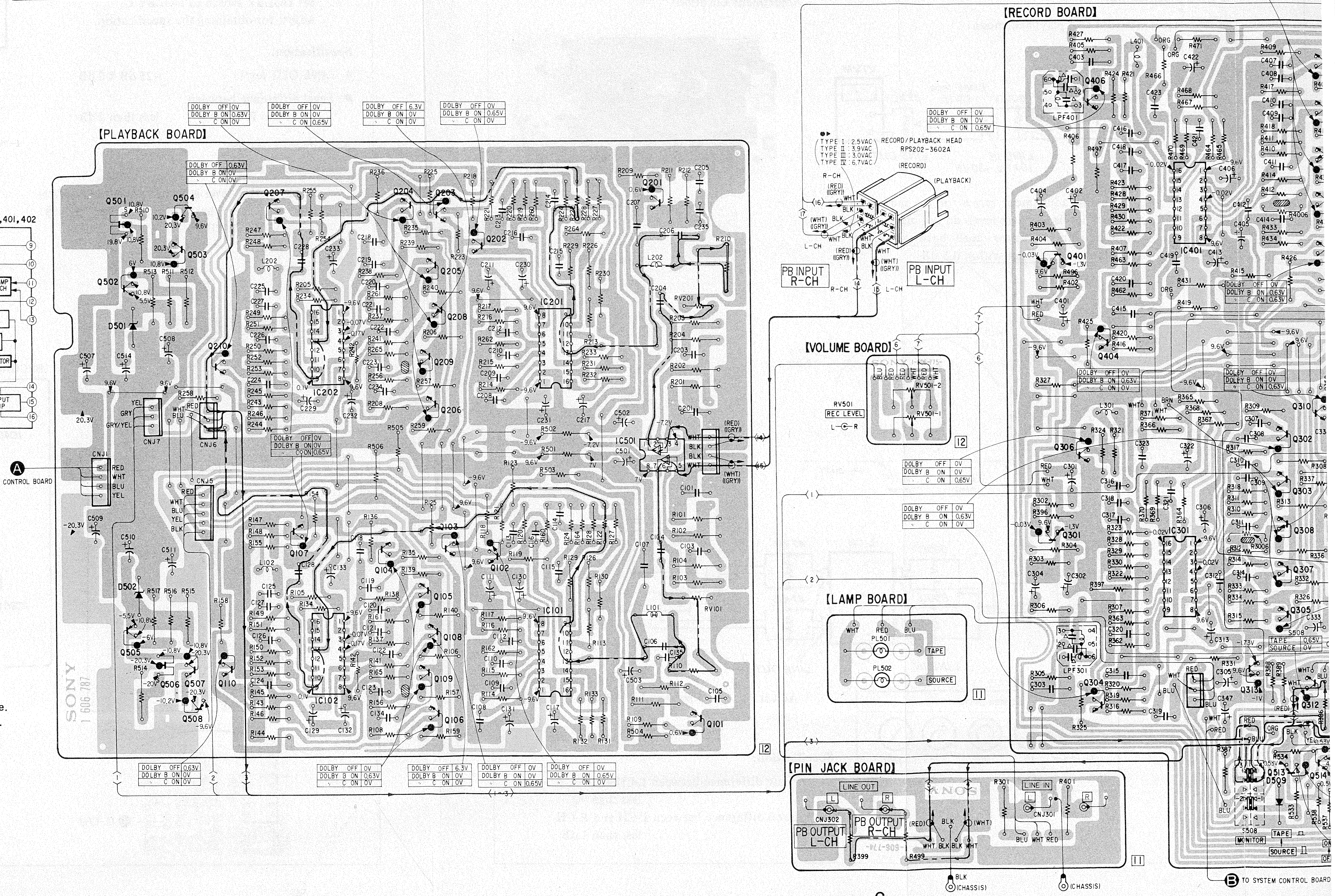
– Amp Section –

	D	E	F	G	H	I	J	K	L	M	N	O	P
Q IC		501 502 504 503 505 506 507 508	207 210 107 110	IC202 104 IC102	204 203 205 202 208 209 206 103 102 105 108 109 106	IC201 IC101	201 IC501 101				406 401 306 404 301 304	IC401 IC301	313 302 303 308 307 305 312 513
D		501 502											509

IC101,102,201,202,301,302,401,402



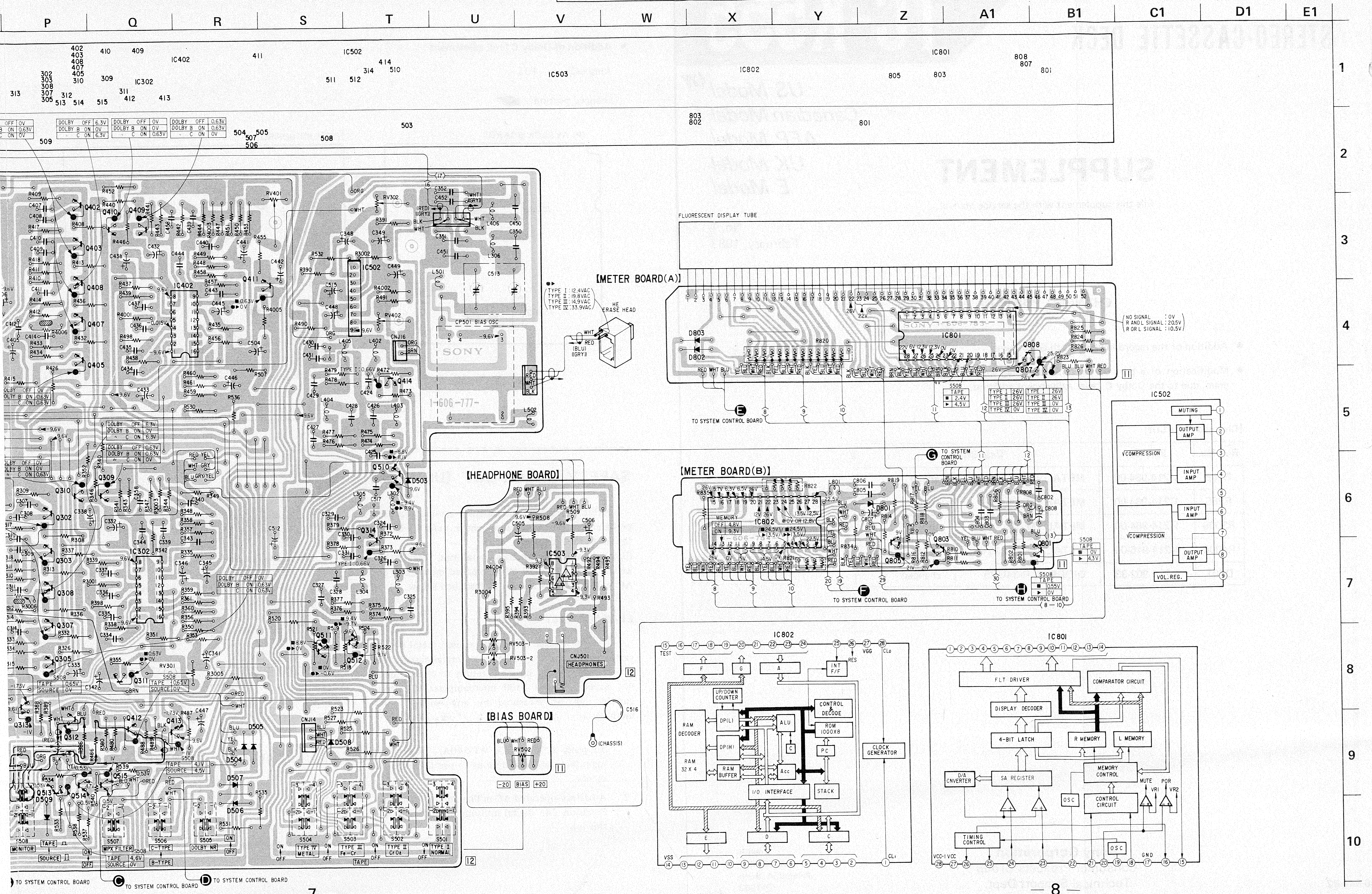
OVERSHOOT AMP
INPUT AMP SWITCH
DET AMP
OVERSHOOT LIMITER
DET
BIAS CIRCUIT
V/I CONVERTER
VARIABLE RESISTOR
OUTPUT AMP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16



[PLAYBACK BOARD]
[RECORD BOARD]
[VOLUME BOARD]
[LAMP BOARD]
[PIN JACK BOARD]
RECORD/PLAYBACK HEAD RPS202-3602A
(RECORD)
(PLAYBACK)
TYPE I : 2.5VAC
TYPE II : 3.9VAC
TYPE III : 3.0VAC
TYPE IV : 6.7VAC
R-CH
L-CH
PB INPUT R-CH
PB INPUT L-CH
RV501 REC LEVEL
PL501
PL502
TAPE
SOURCE
LINE OUT
LINE IN
PB OUTPUT L-CH
PB OUTPUT R-CH
CNJ301
CNJ302
MONITOR
TO SYSTEM CONTROL BOARD
BLK (CHASSIS)
(CHASSIS)
DOLBY OFF 0V
DOLBY B ON 0.63V
C ON 0V
DOLBY OFF 6.3V
DOLBY B ON 0.65V
C ON 0.65V
IC201
IC202
IC101
IC102
IC501
IC301
IC401
LPF301
LPF401
CNJ1
CNJ5
CNJ6
CNJ7
RED
WHT
BLU
YEL
BLK
GRY
ORG
SONY 1-606-787-

Note:

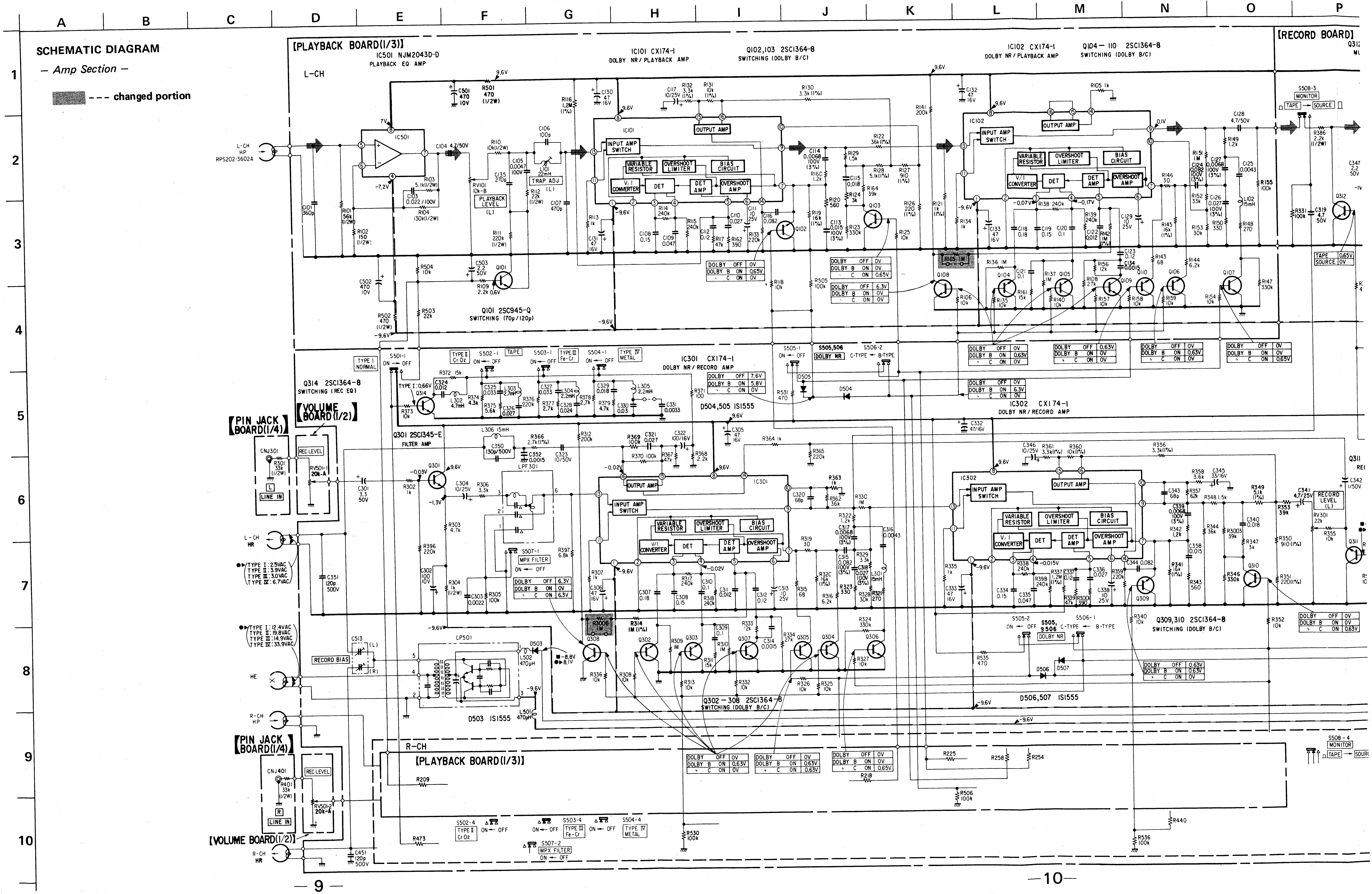
- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ▨ : B + pattern
- ▨ : B – pattern
- ━━▶━━ : signal path
- ━━▶ : L-CH signal path
- ━━▶ : R-CH signal path

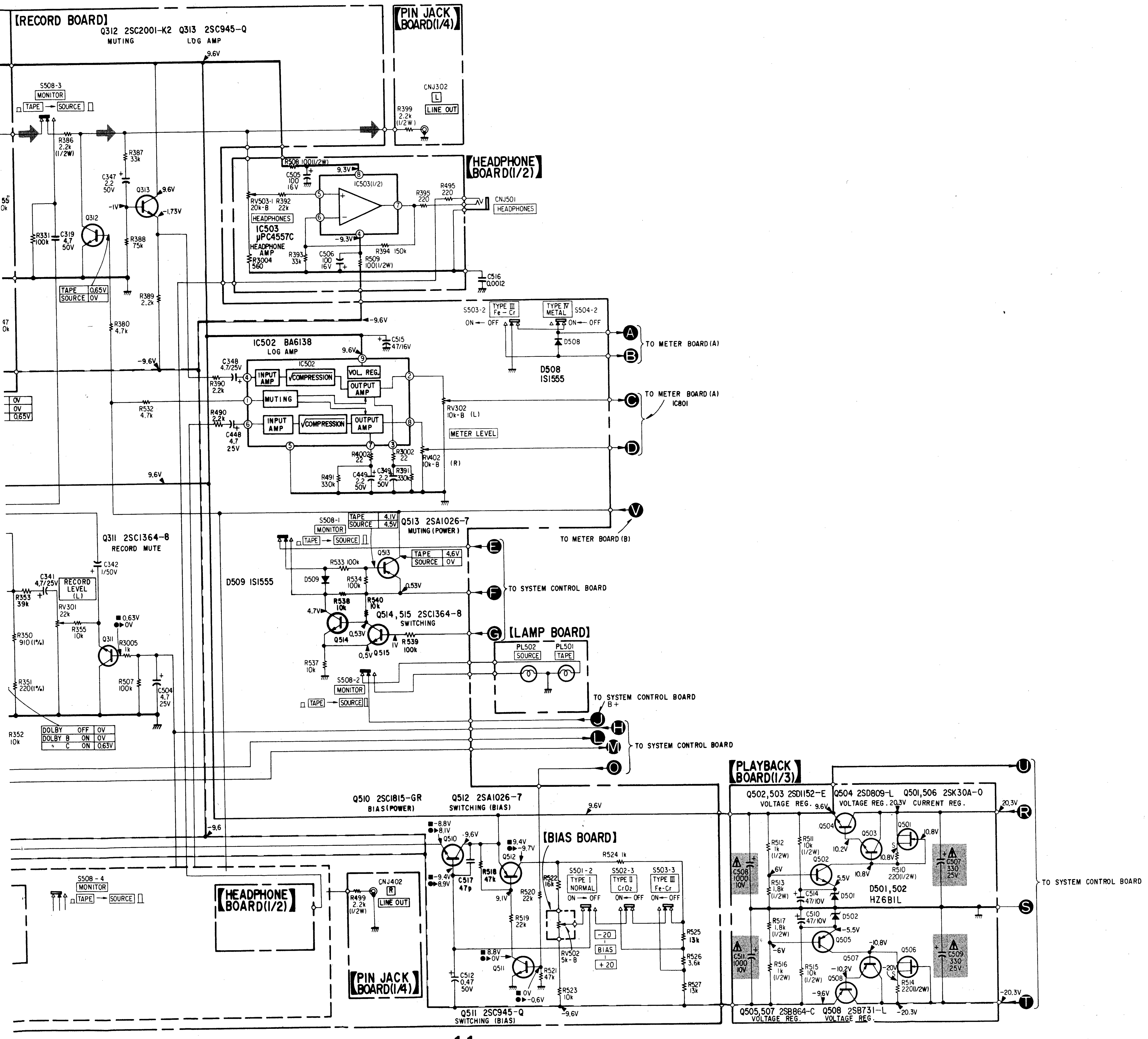

P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
D1
E1
1
2
3
4
5
6
7
8
9
10
IC402
IC302
IC502
IC503
IC802
IC801
FLUORESCENT DISPLAY TUBE
[METER BOARD(A)]
[METER BOARD(B)]
[HEADPHONE BOARD]
[BIAS BOARD]
TYPE I : 12.4VAC
TYPE II : 19.8VAC
TYPE III : 14.9VAC
TYPE IV : 33.9VAC
HE ERASE HEAD
CP501 BIAS OSC
NO SIGNAL : 0V
R AND L SIGNAL : 20.5V
R OR L SIGNAL : 10.5V
TO SYSTEM CONTROL BOARD
CNJ501 HEADPHONES
C516
(CHASSIS)
RV502
-20 BIAS +20
S501 TYPE I NORMAL
S502 TYPE II CrOz
S503 TYPE III Fe-Cr
S504 TYPE IV METAL
S505 DOLBY NR
S506 C-TYPE
S507 MPX FILTER
S508 MONITOR TAPE SOURCE
MUTING
OUTPUT AMP
√COMPRESSION
INPUT AMP
VOL.REG.
TEST
VGG
RES
CLo
F
G
A
INT F/F
UP/DOWN COUNTER
CONTROL DECODE
RAM DECODER
RAM 32 X 4
DP(L)
DP(H)
ALU
ROM 1000X8
PC
RAM BUFFER
Acc
I/O INTERFACE
STACK
CLOCK GENERATOR
E
D
C
VSS
CLi
FLT DRIVER
COMPARATOR CIRCUIT
DISPLAY DECODER
4-BIT LATCH
R MEMORY
L MEMORY
D/A CNVERTER
SA REGISTER
MEMORY CONTROL
OSC
CONTROL CIRCUIT
TIMING CONTROL
MUTE
POR
VR1
VR2
GND
VCC-1 VCC

SCHEMATIC DIAGRAM

– Amp Section –

▨ - - - changed portion


A B C D E F G H I J K L M N O P
1 2 3 4 5 6 7 8 9 10
[PLAYBACK BOARD(1/3)]
L-CH
IC501 NJM2043D-D
PLAYBACK EQ AMP
IC101 CX174-1
DOLBY NR/PLAYBACK AMP
Q102,103 2SC1364-8
SWITCHING (DOLBY B/C)
IC102 CX174-1
DOLBY NR/PLAYBACK AMP
Q104-110 2SC1364-8
SWITCHING (DOLBY B/C)
[RECORD BOARD]
L-CH HP RPS202-3602A
PLAYBACK LEVEL (L)
TRAP ADJ (L)
INPUT AMP SWITCH
OUTPUT AMP
VARIABLE RESISTOR
OVERSHOOT LIMITER
BIAS CIRCUIT
V/I CONVERTER
DET
DET AMP
OVERSHOOT AMP
Q101 2SC945-Q
SWITCHING (70µ/120µ)
S508-3 MONITOR
TAPE SOURCE
Q314 2SC1364-8
SWITCHING (REC EQ)
IC301 CX174-1
DOLBY NR/RECORD AMP
S505,506 DOLBY NR
C-TYPE B-TYPE
D504,505 1S1555
IC302 CX174-1
DOLBY NR/RECORD AMP
[PIN JACK BOARD(1/4)]
[VOLUME BOARD(1/2)]
CNJ301
LINE IN
REC LEVEL
RV501-1 20k-A
Q301 2SC1345-E
FILTER AMP
LPF301
S507-1 MPX FILTER
TYPE I NORMAL
TYPE II CrO2
TYPE III Fe-Cr
TYPE IV METAL
L-CH HR
TYPE I: 2.5VAC
TYPE II: 3.9VAC
TYPE III: 3.0VAC
TYPE IV: 6.7VAC
TYPE I: 12.4VAC
TYPE II: 19.8VAC
TYPE III: 14.9VAC
TYPE IV: 33.9VAC
RECORD BIAS
HE
CP501
D503 1S1555
Q302-308 2SC1364-8
SWITCHING (DOLBY B/C)
D506,507 1S1555
Q309,310 2SC1364-8
SWITCHING (DOLBY B/C)
RECORD LEVEL (L)
R-CH HP
R-CH
[PLAYBACK BOARD(1/3)]
CNJ401
RV501-2 20k-A
R-CH HR
S502-4 S503-4 S504-4
S507-2 MPX FILTER
S508-4 MONITOR
DOLBY OFF ON
DOLBY B ON
C ON
R165 1M
R3006 1M


P
Q
R
S
T
U
V
W
X
Y
Z
A1
B1
C1
D1
E1
1
2
3
4
5
6
7
8
9
10
[RECORD BOARD]
Q312 2SC2001-K2 MUTING
Q313 2SC945-Q LOG AMP
S508-3 MONITOR
TAPE → SOURCE
R386 2.2k (1/2W)
R387 33k
C347 2.2 50V
Q313
Q312
R331 100k
C319 4.7 50V
R388 75k
TAPE 0.65V
SOURCE 0V
R389 2.2k
R380 4.7k
R532 4.7k
[PIN JACK BOARD(1/4)]
CNJ302
L
LINE OUT
R399 2.2k (1/2W)
[HEADPHONE BOARD(1/2)]
R508 100(1/2W)
C505 100 16V
IC503(1/2)
RV503-1 20k-B
R392 22k
HEADPHONES
IC503 μPC4557C HEADPHONE AMP
R3004 560
R393 33k
C506 100 16V
R394 150k
R509 100(1/2W)
R395 220
R495 220
CNJ501
HEADPHONES
C516 0.0012
S503-2 TYPE III Fe-Cr ON ← OFF
TYPE IV METAL S504-2 ON ← OFF
D508 IS1555
TO METER BOARD (A)
TO METER BOARD (A) IC801
IC502 BA6138 LOG AMP
C515 47/16V
C348 4.7/25V
R390 2.2k
INPUT AMP
√COMPRESSION
VOL. REG.
OUTPUT AMP
MUTING
R490 2.2k
C448 4.7 25V
RV302 10k-B (L)
METER LEVEL
RV402 10k-B (R)
R4002 22
R3002 22
R491 330k
C449 2.2 50V
C349 2.2 50V
R391 330k
TO METER BOARD (B)
S508-1 MONITOR
TAPE 4.1V
SOURCE 4.5V
Q513 2SA1026-7 MUTING (POWER)
TAPE 4.6V
SOURCE 0V
Q311 2SC1364-8 RECORD MUTE
C342 1/50V
C341 4.7/25V
RECORD LEVEL (L)
R353 39k
RV301 22k
R355 10k
R350 910(1%)
R3005 1k
R507 100k
C504 4.7 25V
R351 220(1%)
R352 10k
DOLBY OFF 0V
DOLBY B ON 0V
〃 C ON 0.63V
D509 IS1555
R533 100k
R534 100k
R538 10k
R540 10k
Q514,515 2SC1364-8 SWITCHING
R539 100k
R537 10k
S508-2 MONITOR
TAPE → SOURCE
TO SYSTEM CONTROL BOARD
[LAMP BOARD]
PL502 SOURCE
PL501 TAPE
TO SYSTEM CONTROL BOARD B+
TO SYSTEM CONTROL BOARD
S508-4 MONITOR
[HEADPHONE BOARD(1/2)]
CNJ402
R
LINE OUT
R499 2.2k (1/2W)
[PIN JACK BOARD(1/4)]
Q510 2SC1815-GR BIAS(POWER)
Q512 2SA1026-7 SWITCHING (BIAS)
[BIAS BOARD]
C517 47p
R518 47k
R520 22k
R519 22k
R522 16k
R524 1k
S501-2 TYPE I NORMAL ON → OFF
S502-3 TYPE II CrO2 ON ← OFF
S503-3 TYPE III Fe-Cr ON ← OFF
-20
BIAS
+20
RV502 5k-B
R525 13k
R526 3.6k
R527 13k
C512 0.47 50V
R521 47k
R523 10k
Q511 2SC945-Q SWITCHING (BIAS)
[PLAYBACK BOARD(1/3)]
Q502,503 2SD1152-E VOLTAGE REG.
Q504 2SD809-L VOLTAGE REG.
Q501,506 2SK30A-0 CURRENT REG.
R512 1k (1/2W)
R511 10k (1/2W)
C508 1000 10V
R513 1.8k (1/2W)
C514 47/10V
D501,502 HZ6B1L
R510 220(1/2W)
C507 330 25V
C510 47/10V
R517 1.8k (1/2W)
C511 1000 10V
R516 1k (1/2W)
R515 10k (1/2W)
R514 220(1/2W)
C509 330 25V
Q505,507 2SB864-C VOLTAGE REG.
Q508 2SB731-L VOLTAGE REG.
TO SYSTEM CONTROL BOARD
A
B
C
D
V
E
F
G
J
H
L
M
O
U
R
S
T

Note:

- ➡ : signal path
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unlessotherwise noted. kΩ: 1000Ω, MΩ: 1000kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B + bus.
- – – – : B – bus.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
- AC voltage readings in the bias oscillator with a VTVM.

Note: Voltages are measured with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.